AMIGA GUIDE

JANUARY 1994

GOT ONE OF THESE? THEN READ THIS MAG!

GETTING TO GRIPS WITH YOUR NEW AMIGA - ALL YOU NEED TO KNOW!

AMIGA HELPLINE WHAT TO DO WHEN THINGS GO WRONG!

EXPLORING THE AMIGA'S WORKBENCH

HINTS AND TIPS FOR DELUXE PAINT IV AND WORDWORTH 2

FREE! WITH CU AMIGA

INSIDE: VITAL INFORMATION FOR ALL NEW AMIGA OWNERS! DON'T MISS OUT

INTRODUCING CU AMIGA..

Now that you're an Amiga owner we'd like to take this opportunity to not only congratulate you on buying the best computer in the business but also for buying the best Amiga magazine in the business. Every month we deliver the hottest and most up-to-date Amiga news from around the world, reviews of the most exciting new Amiga games, serious software and hardware, plus a healthy splattering of tutorials that show you how to get the very best from a whole range of Amiga applications. Whether you use your Amiga for entertainment, business, music or graphics, you'll always find something of interest within the pages of CU Amiga. Don't forget our coverdisks either – every month you'll find them crammed full of useful utilities and great games.

We don't automatically assume that all ours readers are total tech-heads either, so you'll never get bogged down in meaningless jargon. All our writers know what it's like to be a beginner, so all the articles you'll find in CU Amiga have been written using a language that is rarely found in computer magazines – plain English. Stick with us and enjoy the ride!

If you found an Amiga lurking at the bottom of your Christmas stocking, then you're now one of the elite – you're an Amiga user. Jason Holborn introduces you to the most popular home micro ever.

SILICON WIZARDRY

If you were lucky enough to find an Amiga rather than the usual socks and aftershave lurking at the bottom of your Christmas stocking, then Santa has indeed been very kind to you. You're now the proud owner of what is perhaps the most successful home computer ever known to man – you'll find Amigas nestling comfortably on the desks, tables and carpets of millions of homes and offices around the world. In the UK alone there are hundreds of thousands of people that have been wise enough to make the same choice as yourself. With your purchase of a brand spanking new Amiga, you're now a member of the 'Mensa' of home computer owners!

It's easy to see why the Amiga has become such a phenomenal success. No other home computer on the market combines such ease of use, power and darned right good value for money in such a compact package. Whilst other home computer owners have paid out obscene amounts of cash for machines that are really nothing more than trumped up calculators, the Amiga is a market leader in just about everything it does. Whether you want to use your new machine to explore the possibilities of 'serious' home computing or you just want to have a blast with the latest Amiga games, you'll find the Amiga the home of some of the best software in the business.

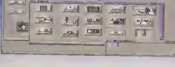
Playing games on your Amiga is a perfectly valid way of enjoying the power of your new purchase, but the aim of this guide is to take you gently through the possibilities that your Amiga presents. We're not going to bore you with in-depth guides that cover programs that you probably don't even own – this entire CU Amiga supplement is concentrated entirely on the software and hardware that you found in your Amiga's box. We'll show you what all the connectors at the back of your Amiga do, how to use the Amiga's System disks and how to get the most from the free software bundled with your machine. Stick with us over the next 32 pages or so and you'll know enough to master your Amiga in no time whatsoever!

HIDDEN POWER

So what makes the Amiga so special? Well, to the untrained eye, home computers are all pretty much the same, but look below the surface at the hardware contained within your Amiga's casing and you'll find a machine that draws upon some of the most advanced computer hardware ever to grace a home computer. The secret to the Amiga's power lies in its ultra fast Motorola central processor (a 68020 in the CD32 and A1200 and a 68030 in the A4000/030) and – more importantly – its custom chips. The Amiga's processor is best thought of as the machine's 'brain' and what a brain it is too – capable of performing almost three million operations per second, the Amiga easily runs rings around most of the competition.

If this ultra fast processor wasn't enough, the Amiga's power is boosted still further by three custom designed chips that take the strain off the processor. Each of these chips is responsible for a particular aspect of the Amiga's graphics and sound. Two of the chips, Lisa and Alice (great names eh?), handle the Amiga's impressive graphics. In turn, both chips have special circuitry built into them that are virtually custom chips in their own right – Alice, for example, contains the Amiga's infamous 'Blitter' and Lisa contains the 'Copper' which gives the Amiga the ability to split the screen into different regions, each with its own resolution and colour palette. The last major custom chip, 'Paula', is responsible for the Amiga's impressive sound capabilities. Thanks to Paula, the Amiga is capable of playing 'sampled' sounds just like dedicated sound sampling devices used by professional musicians. All three custom chips are seamlessly integrated to form the machine we know and love.

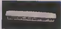
The Amiga's power doesn't stop at its hardware, however – all these custom chips are brought into line by an operating system that is still one of the most powerful in the business. Even in these days of 486 PCs, 030-based Falcons and Macintoshes, the Amiga's operating system is still the only one to offer true multitasking. That is, the ability to run more than one program simultaneously. If this exploration of the Amiga hasn't already whetted your appetite for more, then read on to find out how you can get the most from all this silicon wizardry!



Even in these days of powerful Macs and PCs, the Amiga's operating system is still the only one to offer true multitasking

CONTENTS

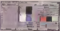
4 CONNECTING IT UP
Getting your Amiga up and running is a little more complicated than just plugging it in We show you how to get started



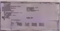
6 SYSTEMS RISKS
Wondering what to do with the system disks you found in the bottom of your Amiga box? Well we'll put you in the light and let you know what to do with them

10 WORKBENCH
You don't need to be a genius to find your way about the Amiga. If you can point and click, that's all you need to know to find your way around Workbench

14 PREFERENCES
Fed up with something in Workbench? Then you can change it with the Preferences system



17 AMIGADOS
Want to unlock the real power of your Amiga? Then AmigaDos is the one for you



20 WRITING AND PAINTING
Check out *Deluxe Paint* and *Wordworth 2* two of the software packages bundled with your Amiga

24 EXPANDING YOUR AMIGA
The basic Amiga is a very powerful machine but you can increase its capabilities with a range of low-cost add-ons

28 AMIGA HELPLINE
Anything about the Amiga still worrying you? Then this selection of the most common problems with the Amiga will put you on the right track

CONTENTS

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CONNECTING IT UP

Getting an Amiga A1200 up and running is a little more involved than just fitting a plug to the power lead. We take you through that first all-important first stage...

Christmas wrapping is designed to be torn off in a frenzy of excitement but the packaging that contains your Amiga most certainly isn't. Once you've picked up the remnants of the very tasteful Santa Claus wrapping paper that your parents/wife/dog etc (delete as applicable) decided would most fit your shiny new machine it's time to open up the box and experience the delights that lie within. Unpacking and setting up the Amiga isn't a difficult task but it's still wise to take your time and be very careful with all the associated bits and pieces that you'll find lurking in the bottom of the box. Bruce Willis may be able to take being dropped onto a concrete floor but Amigas aren't so lucky!

The first (and obvious) thing to do is to open up the Amiga's box and if the excitement hasn't already got to you carefully remove each item and place it neatly in front of you. Once you're totally sure that there's nothing left in the box pick up all that polystyrene packing, place it back into the box and store it in a safe place so that if the unthinkable does happen (i.e. you've got a dead Amiga) you can still take it back to the shop that kindly gave you an Amiga that has bit the dust. If everything went according to plan you should have the following items smiling at you from your living room floor.

TROUBLE SHOOTING

When I turn on the Amiga nothing happens – the power light doesn't even come on!

This could be caused by a number of things. The first thing to do is to check to make sure that the power supply is connected to the back of the Amiga and that the other end of the power supply is plugged into a wall socket. Once you've done this check to make sure that both the switch on the wall socket is turned on and the switch on the power supply 'brick' is turned on as well. If your Amiga still doesn't work try changing the fuse in the plug. If it doesn't work after making all these checks then chances are your Amiga is dead. Take it back to the shop where you bought it.

I've connected my Amiga up to my television but there's no picture!

If the Amiga's power light is on then check to make sure that the aerial lead supplied with your machine is connected between the Amiga's 'RF Modulator' output and the aerial input on your TV. If this still doesn't work, check to make sure that the TV is tuned in correctly.

I've got a picture on my TV screen but no sound!

The first thing to check is the volume control on your TV. Is it turned up so that you can at least hear a normal TV program? Failing that, have you loaded a piece of software that actually produces sound? If not, then load up a game and you should [illegible] some music when the game's title [illegible] all else fails, have

AN AMIGA

Inside that polystyrene bag you should find that lovingly crafted Cindy Crawford of the computer world: an Amiga A1200 (that is unless you bought an Amiga 4000/030 of course!). This is the bit that cost so much money so treat it with the same love and affection that you'd treat Cindy Crawford herself. The pillow talk may not be as good (or so I'm told) but the Amiga is just as sexy in its own unique way.

A POWER SUPPLY

Most humans are pretty useless without a good breakfast inside them and the Amiga needs its own type of food too in the form of a good healthy supply of volts provided by your local power station. In order for your Amiga to get its supply of electricity Commodore should have kindly supplied a rather large (and heavy!) brick shaped object with a lead poking from either end of it. One end should have a square-shaped silver connector on it and the other end should have a standard 3 way plug on it. If you weren't lucky enough to have a power supply that comes equipped with its own plug, then now's a good time to get out your trusty screwdriver and fit a plug to it.

A MOUSE

No, Commodore haven't provided your Amiga with a pet – this mouse is a beautifully sculptured little cream-coloured device that has a long lead trailing from it that connects to the Amiga. If you've never used a mouse before (animal fetishes don't count!) then don't worry – we'll be taking a look at the mouse in the next section. For the moment however turn your mouse over onto its back and you should see a little circular disk shaped like a Polo mint with a little arrow on it that points to the letter C on the mouse's casing. Press down on the two thumb pads and turn this disk until the arrow points at the letter O. The disk should then come free and you can then remove the little bit of foam padding that keeps your mouse's roller ball in place during transit. Once this is done refit the disk and turn it back so that it points to C again. Your mouse is now ready for use.

A TV LEAD

Unless you're the sort of flash-type that is going to use their Amiga with a monitor this lead is very important. As its name suggests it's responsible for feeding the sound and pictures produced by your Amiga to your television so that you can actually see and hear what your Amiga is doing. Keep this safe at hand!

THE SYSTEM DISKS

It's all too tempting to simply throw away anything that doesn't look even slightly electronic but be careful – lurking in your Amiga's box somewhere is a sealed white cardboard folder that contains your Amiga's system disks. These disks hold the Amiga's famous Workbench and all the necessary files required to get it up and running. Put these aside for the moment because we'll be taking a good look at what these disks contain in the next section.

THE GUARANTEE CARD

It's unlikely that your Amiga will ever become sick but just in case it does Commodore kindly provide a guarantee with it that basically means that if something does go wrong within the first 12 months they'll happily sort it out for you free of charge. In order for Commodore to know when you bought your Amiga and whether your guarantee is still valid, you'll find a guarantee card inside your Amiga's box that should be completed and posted back to Commodore as soon as possible. Filling out forms is pretty boring at the best of times so no one will blame you if you decide to have a play with your Amiga first, but make sure that you do it within the first week of owning your Amiga.

LOTS OF SOFTWARE

If you bought the Amiga A1200 Desktop Dynamite pack then you should also find a number of software packages bundled with your Amiga. Hidden somewhere within the darkest recesses of your Amiga's box should be copies of *Deluxe Paint IV AGA*, *Wordworth 2*, *Print Manager* and two games – *Oscar* and *Dennis*. Commodore don't supply a joystick with the A1200 so just pray that

AMIGA
DESKTOP DYNAMITE

Even in these days of powerful Macs and PCs the Amiga's operating system is still the only one to offer true multitasking the person that bought your Amiga will have had the wisdom to buy you a joystick if you want to play those lovely games We ll be covering the three serious programs later so stay tuned!

GET CONNECTED!

Now that you ve got everything lying on the floor in front of you and you know that nothing is missing let s get it all connected up so that you can start using your new acquisition Grab hold of the Amiga and take a look at the row of connectors along the back of it These may look rather bewildering but don t worry for the meantime all we need is the one labelled "Power and the one right next to it labelled RF Modulator Plug the square-shaped connector on the end of the power supply into the Power socket check to make sure that the power supply brick is in the off position (the O should be pressed in) and then push the plug on the other end of the power supply into a power socket (these are usually supplied with most houses!) Right that s the power supply sorted out now let s connect the Amiga up to your television

Getting your Amiga to talk to a television is somewhat more involved so now may be a perfect time to dig out the manual that came with your TV if you don t know already knew how to tune your TV into a computer Before you can do this, however you need to connect the output from the Amiga s RF Modulator port into the aerial socket on your television using the lead supplied by Commodore. Now the exciting bit flick the switch on the Amiga s power supply to the On position and hopefully the Amiga should spring to life (well the power light should come on at least!) Select a vacant channel on your television and then tune in that channel until you see a very smart looking picture of a disk being inserted into a disk drive and a colourful tick symbol Keep on micro-tuning your TV until you get the best possible picture and then store this setting into your TV's memory

Right now we know that everything is working okay turn off your Amiga and then plug in the mouse controller into the port labelled 1 MOUSE Once this is done you can turn your Amiga back on again and stare at it for a few hours Congratulations the tough bit is over!

CARING FOR YOUR AMIGA

Amigas are delicate electronic devices that if treated correctly will provide you with years of sterling service. Here s a quick guide to the sort of things that you can do to keep your Amiga not only working perfectly but happy too

1. Keep it away from liquids such as coffee, soft drinks and Jiff Micro Any fluids that enter your Amiga can cause it to curl up and die so be careful If your Amiga gets dirty then clean it with a duster Jiff Micro may work wonders on your kitchen worktops but I can assure you that the delicate electronics inside your Amiga will not be impressed

2. Whenever you plug anything into the Amiga, always switch off your machine first If you plug anything into your Amiga when it is still powered up there s a very good chance that it will short circuit causing untold damage to your Amiga s innards You may get away with it a couple of times but rest assured that eventually you will short circuit your Amiga!

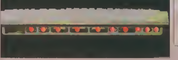
3 Don t cover your Amiga with books and magazines. All electronic equipment heats up as it is used and the Amiga is no exception Those little vents on the top of its casing are there to keep it cool so if you cover them over your Amiga will start to overheat. If your Amiga gets too hot, electronic components inside of it will start to go pop!

4 Keep your mouse clean by using a mouse mat Even on the cleanest surfaces there can be microscopic spots of dust and grime that will be picked up by the rubber ball inside your mouse As this grime builds up on your mouse it will steadily clog up its internals

5 Don t put anything other than disks into the Amiga s disk drive That port on the right hand side of your Amiga may look like a toaster but the only thing that will get fried if you stick anything other than a disk into it is your Amiga (or even yourself!)

PORTS OF CALL

The obvious feature of the Amiga is its keyboard and disk drive, but lurking around the back of it are an assortment of connectors that allow you to connect your Amiga to a vast array of different techno paraphernalia Let's take a look at what each connector is and what can be plugged into it



MOUSE The mouse port s sole role in life is to act as an interface between the Amiga and the mouse controller bundled with your machine Some games also use this port for the connection of a second joystick

JOYSTICK If you fancy playing a game or two on your Amiga, then a joystick should be connected to this port

DISK DRIVE The Amiga already has its own built in disk drive, but additional drives (up to three extra) can be connected to the Amiga via this connector Adding an extra drive will make duplicating disks and copying files so much easier

SERIAL PORT The serial connector is a multi-purpose port that can be used to connect a whole host of different add-ons to the Amiga including modems, serial printers and even other Amigas

PARALLEL PORT By far the most powerful of all the Amiga s ports is the parallel port. Although designed specifically for the connection of printers, it can also be used to connect sound samplers, digitisers and a whole host of other add-ons to the Amiga.

R AUDIO/L AUDIO The Amiga splits its 4 channels of sound into two stereo pairs that are output through these two connectors If you're running your Amiga through a TV, then the sound will be sent as part of the RF signal but you can add a little bit of extra sound quality by feeding the output from these two connectors into the 'AUX' input on your Hi fi

VIDEO The video connector is designed primarily to allow you to connect an RGB monitor to your Amiga. A monitor will give considerably better picture quality This connector is also used by 'video devices such as genlocks and colour cards such as DCTV

. COMP The Comp connector outputs the Amiga's display in composite video format Although rarely used, it can be useful for feeding the output from your Amiga into a domestic video recorder

. RF MODULATOR Older Amigas needed a separate TV modulator in order to display the video output from the Amiga on a standard television but this is now built in as standard on the A600 and A1200 Unless you own a monitor, this port will be needed to view the Amiga's wondrous graphics

. POWER Amigas don t run on long-life batteries, so you'll need to feed your Amiga an electrical supply in order for it to come to life. Only the power supply unit provided with your Amiga should be plugged into this connector

If you're wondering what to do with the system disks that you found in the bottom of your Amiga's box, then let Jason Holborn explain.

The Amiga Extras disk contains a wealth of utilities that extend the capabilities of the Amiga's Workbench

THE SYSTEM DISKS

A good looking slab of plastic and a couple of bits of confusing wire shouldn't be the only thing that you find in your Amiga's box. Lurking beneath the polystyrene packing and manuals you should have found a white cardboard folder containing five or possibly even six floppy disks. These disks contain what the techies call your Amiga's 'systems software'. That is, the software required to access the Amiga's Workbench environment. You don't necessarily need these disks if you want to use your Amiga for nothing more than running *Body Blows Galactic* but they're essential if you want to use your Amiga for anything even remotely creative.

All Amigas since the original A1000 come bundled with these five basic disks. Being the proud owner of a brand spanking new Amiga A1200, the version of Workbench bundled with your machine should be 3.0 (or possibly even 3.1 – there's very little difference), the latest and greatest release in a long line of Workbench revisions. Workbench 3.0 is a state of the art program that – as we shall see when we examine Workbench in more detail later – allows you to operate your Amiga (load programs, format disks etc) using nothing more than your Amiga's mouse controller.

Before we do get stuck into Workbench however, let's take a look at what your Amiga's system disks actually contain. You'll notice that the five disks are labelled Workbench, Extras, Fonts, Storage and Locale. The most important of these is your Workbench disk, so let's start with that one.

WORKBENCH 3.0

The Workbench 3.0 disk is one of the five system disks bundled with your Amiga that will actually do anything if you insert the disk into your Amiga's internal drive and switch on the power. The Workbench disk forms the core of the Amiga's systems software and it contains all the low level libraries and system files needed to get the Workbench up and running on your monitor screen. Don't let all this techno-talk worry you though – simply switch on your Amiga, insert the Workbench disk and it will automatically load Workbench for you.

If you double click on the Workbench disk icon that will appear when the Workbench has loaded, you'll see six drawer icons appear labelled Prefs, Utilities, System, WBStartUp, Devs and Expansion. The first of these, Prefs, contains all the default settings for the look and feel of your Workbench. If you look in the Prefs drawer on your Extras disk you'll find programs that will allow you to alter these settings.

The Utilities drawer contains two programs – Multiview and Clock. Although the Clock utility is pretty obvious (double click on its icon if you're still not quite sure what it does), Multiview is somewhat less obvious. Put simply, Multiview is a tool that will allow you to view (and hear!) files stored in what is known as IFF format. IFF is a standardised method of storing different types of data such as pictures, sound samples, animations etc.

The System drawer contains a number of utilities that allow you to format (prepare) disks for use, run ARexx (a programming language), turn off Fast (expansion) memory if your favourite game fails to load and access the Amiga's Shell environment. The Shell is definitely for advanced users only as it provides low level access to the Amiga's disk operating system.

The last three drawers are somewhat less exciting. The WBStartUp drawer is a special drawer that is used to hold programs that you'd like the Amiga to automatically run when the Workbench is loaded. If, for example, you wanted your favourite Virus Killer to automatically load each time you booted up Workbench, you'd place it in here. The Devs and Expansion drawers shouldn't really be tampered with unless you know what you're doing as they contain files that the Workbench requires to operate correctly.

AMIGA EXTRAS 3.0

The Extras disk contains a number of extra utilities and system files that didn't quite fit onto the Workbench disk. If you view the contents of the Extras disk, you'll find three drawers labelled Prefs, Tools and System. As you may have already noticed, two of these drawers already exist on your Workbench disk – as I said, not all the Workbench files squeezed onto the Workbench disk so Commodore were forced to take this approach.

The Extras Prefs drawer contains a lot more than the Prefs drawer on your Workbench disk however. If you open it up you'll find a total of fifteen different programs, each of which controls a particular aspect of the Workbench environment. The Palette program, for example, lets you modify the colours of the Workbench screen and the Pointer program lets you modify the shape of the Workbench mouse pointer.

In the Tools drawer you'll find a whole host of utilities that extend the capabilities of the Workbench. None of them are essential, but you'll find them useful nonetheless. The IconEdit program, for example, allows you to change the appearance of a Workbench icon and the MEmacs program is a powerful text editor.

Finally, the System drawer contains just a single icon – IntelliFont. The IntelliFont program gives you control over the special Compugraphic outline fonts that are on your Workbench. Outline fonts can be stretched and shrunk without the loss in quality associated with normal bitmapped fonts

Utilities
System

By far the most important system disk bundled with your Amiga is the Workbench disk as it contains the Workbench program and the files required to make it work on your Amiga

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ODIN (RATED PG)	[illegible]
PROJECT A KO (RATED 15)	[illegible]
R.G. VEDA (RATED PG)	[illegible]
TETSUO THE IRON MAN (LIVE ACTION) (RATED 18)	[illegible]
TETSUO II BODY HAMMER (LIVE ACTION) (RATED 18)	[illegible]
TETSUO DOUBLE PACK (LIVE ACTION) (RATED 18)	[illegible]
THE ULTIMATE TEACHER (RATED 15)	[illegible]
UROTSUKIDOJI LEGEND OF THE OVERFIEND (RATED 18)	[illegible]
UROTSUKIDOJI II LEGEND OF THE DEMON WOMB (RATED 18)	[illegible]
VAMPIRE HUNTER D (RATED 15)	[illegible]
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WICKED CITY (RATED 18)	[illegible]

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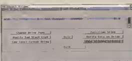


If you bought an Amiga equipped with a hard disk then you should find an additional HDInstall disk in your Amiga's box. This contains all the programs you need to format your drive and install the Amiga's system software

THE HDINSTALL DISK

If you have bought yourself an Amiga that comes equipped with a hard disk drive, then you should have found an additional disk called HDInstall 3.0 tucked away somewhere within your disk wallet. This disk contains all the programs required to format (prepare) your drive and to install it with the contents of your system disks. Commodore kindly format and install the Workbench files for you but it's worth hanging on to this disk just in case something does go wrong.

AMIGA FONTS

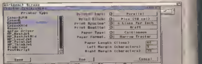
If you insert this disk into your Amiga when Workbench is loaded you won't find any icons on the disk. This is because the Amiga Fonts disk contains nothing more than font files. These font files can be used by just about any program that makes use of the Amiga's font handling capabilities *DPaint* and *Wordworth 2* being just two examples. On the Amiga Fonts disk you'll find a whole host of typefaces in a selection of different sizes.

The Amiga uses two different types of font – bitmapped fonts and outline fonts – both of which are on your Amiga Fonts disk. Bitmapped fonts get their name from the fact that they are defined as pixels (screen dots). The one big problem with bitmapped fonts is that because they are pixel-based they loose their definition whenever you increase or decrease their size. Outline fonts, on the other hand, are what is known as 'structured' fonts. That is, the data required to draw the font characters on the screen is held as a series of co-ordinates which are plotted onto the screen by the Amiga. The great thing about outline fonts is that because they are calculated, you can stretch and compress them to your heart's content with little or no loss in quality. These outline fonts have been used to great effect in *Wordworth 2*, the word processor bundled with your Amiga A1200.

LOCAL

A relatively new addition to the Amiga's Workbench is Locale, a very flexible system that allows the Amiga to automatically handle foreign languages essentially making it a truly multilingual computer. The basic idea behind Locale is that the user chooses the language that they'd like the Amiga to use and then all programs that you load will automatically communicate with the user in their chosen language. If you choose French, for example, all your programs will display text in the French language (parlez vous Francais?)

Not all programs will be able to make use of localisation, however, so don't get too excited by the thought of running DPaint in Japanese. Unless the program has been specifically written to support localisation the language that you choose will be completely ignored. At the moment, Locale supports the following languages: English (of course), German, French, Danish, Italian, Norwegian, Dutch, Swedish, Spanish and Portuguese – all of which can be found on your Locale disk.



Printer Port: Parallel
Print Pitch: Pica (10 cpi)
Print Spacing: 6 Lines Per Inch
Print Quality: Draft
Paper Type: Continuous
Paper Format: Narrow Tractor
Paper Length (lines) 66
Left Margin (characters) 5
Right Margin (characters) 75

The Storage disk contains a vast array of files that allow you to modify the Workbench to suit your own personal requirements.

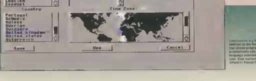
STORAGE

Finally, we have the Storage disk which is perhaps one of the most important disks second only to your Workbench disk. The Storage disk contains a vast array of files that will allow you to modify your Workbench to suit your own particular setup. If you double click on the Storage disk icon you'll see five drawers – DataTypes, Monitors, DOSDrivers, Printers and Keymaps.

The DataTypes drawer contains support files that can be used by other programs giving them access to foreign file formats. The DOSDrivers drawer contains files used by the Amiga's floppy disk controller allowing it to read disks from other computers. A good example of this is the CrossDOS utility bundled with Workbench that gives the Amiga the ability to read MSDOS diskettes. The monitors drawer contains drivers for an assortment of different monitors including multisyncs and standard PAL and NTSC RGB monitors.

The Amiga doesn't just restrict you to the symbols that you see printed on your Amiga's keyboard when entering text. In the Keymaps drawer you'll find keyboard configurations for a number of different countries including the UK, America (the default setting), France and Germany. All these countries use their own unique symbols (currency symbols, for example) that these keymaps allow you to access.

Finally, the printers drawer contains a host of different printer drivers that will allow your Amiga to control just about any make or model of printer. We'll be covering printer drivers in quite some depth in the section on the Amiga Preferences system (see page 14).



Preferred Languages: English

Localisation is a fairly new addition to the Workbench that allows programs to automatically adjust to a language selected by the user. Ever wanted to see *DPaint* in French?!

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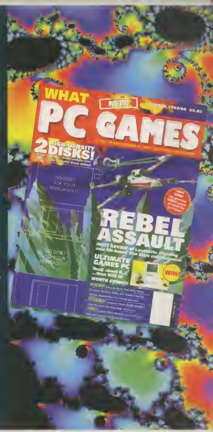
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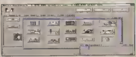


The Amiga's Workbench environment lets you operate your Amiga without having to learn lots of complex commands.

LOADING WORKBENCH

Unless you've bought yourself a secondhand Amiga or one of the few remaining stocks of Amiga A600s the version of Workbench bundled with your Amiga will be version 3.0, the latest and greatest in a long line of Workbench releases. Inside your Amiga's box you should have found a cardboard folder containing either five or – in the case of hard disk based Amigas – six disks. The most important of these disks is the disk labelled Amiga Workbench as it contains the Workbench program and all the associated files and libraries required to make Workbench run on your Amiga.

Loading Workbench is very easy indeed. Just insert the Workbench disk into your A1200's internal drive, switch on and after a minute or so of disk accesses, the Workbench screen should appear. It's worth noting that if you bought an Amiga that has a hard drive built into it, it is not necessary to 'boot up' your Amiga from disk. All Amigas that have hard disks will have all the Workbench files 'factory installed'. Simply switch on your Amiga and Workbench will load from your hard disk.

INTRODUCING WORKBENCH

You don't need to be a computer whizz-kid to use your Amiga – if you can point and click, then that's all that is required

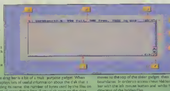
Most people's perception of a computer is a complex beast that requires a PHD in computer science just to operate. With the Amiga's Workbench however this couldn't be further from the truth. If you've managed to master the basic techniques of hand to eye co-ordination and you know how to operate the mouse controller that came with your Amiga, then you're already half there!

The key to the Amiga's simplicity is the Workbench, a program bundled with all Amigas that allows you to perform common everyday operations such as loading programs, copying and examining disks without having to get bogged down in computer jargon. The Workbench, like all similar WIMP-based (Window Icon Menu Pointer) front ends is a development of the system pioneered by those bright sparks at Xerox's Palo-Alto Research Laboratories. Back then computers were operated by typing in complex commands via a keyboard. Although this system worked, it contributed more than its fair share to the technofear that surrounded computers little more than a few years back. Most 8 bit micros used this technique too although in a much simpler form.

The basic idea behind WIMP based systems like Workbench is that even if you don't understand the language that the Amiga uses, you can still operate your machine simply by pointing and clicking. It's a bit like the technique that most of us use when trying to buy something in a foreign country (that is unless you know the lingo off by heart!). Say for example, you were in Japan and you wanted to buy a lovely hot pasty. You could try asking for it in English but chances are that the shopkeeper wouldn't know what you were talking about. You could even try asking for it using a couple of lines that you had learnt on the way to the shop, but then he'd probably end up wondering why you had asked him for directions to the beach! A much simpler way of getting what you wanted

THROUGH THE SQUARE WINDOW

All Workbench windows have what are known as 'gadgets' attached to them that perform certain operations on that window when you click on them. In many ways, gadgets are very similar to icons. Let's take a look at what each window gadget actually does.



. **CLOSE GADGET** As its name seems to strangely suggest, the close gadget is used to close a window. That is to remove it from view. Once you've closed a window, the Amiga forgets all about it so it's up to you to double click on the disk or drawer icon that displayed the window in the first place if you wish to view the same window again.

. **DRAG BAR** The drag bar is a bit of a multi-purpose gadget. When you're not using it, it displays lots of useful information about the disk that is currently in use including its name, the number of bytes used by the files on that disk and the amount of space that is free. If you click once on the drag bar and hold onto the mouse button and then move the mouse, the drag bar will also allow you to move the window to a new position on the Workbench screen. This can be handy for arranging windows when several overlap.

. **SHRINK GADGET** If your Workbench screen starts to get a little cluttered then you can remedy the situation a little by clicking on each window's shrink gadget. This gadget simply shrinks the window to a minimum size. Click on it again and the window will return to its original size.

. **ARRANGE GADGET** If a window is being obscured by another window it can be brought fully into view simply by clicking on its arrange gadget. If you can't access the window without moving the window that obscures it, that window can be sent 'behind' the window you're interested in by clicking on its arrange gadget.

. **SLIDER GADGETS** Because the Workbench allows you to fix the position of an icon (or group of icons) within a window, it may not always be possible to view them all at once. If an icon is hidden, it can be brought into view by dragging the appropriate slider gadget up or down, left or right. This will cause the area within the window to scroll in the direction of the slider gadget. You can tell whether there are icons hidden from view because the slider gadget that controls the direction of scroll that the icon can be found in will shrink. If, for example, the vertical slider bar (this is the bit you click on) shrinks and moves to the top of the slider gadget, then there are files below the window boundaries. In order to access these hidden icons, simply click on the slider bar with the left mouse button and, whilst holding that button, drag it in the direction of the hidden files.

. **SCROLL GADGETS** The scroll gadgets work in a very similar way to the slider gadgets covered above but instead of scrolling the contents of the window smoothly, they are scrolled in discrete steps. There are four of these gadgets, one for each direction of movement.

. **SIZE GADGET** The size gadget allows you to shrink or expand the window to a new size. It's operated simply by clicking and holding the mouse button and dragging the outline of the window that will new size. Give it a try!

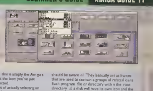
PULL DOWN MENUS

Another feature of the Workbench is its pull down menus which drop down from the top of the screen when you move the mouse pointer over the Workbench titlebar and hold down the right mouse button. Pull down menus simply contain lists of operations, with each item in these lists capable of performing a particular task. Each menu item will have the name of the operation attached to it so you'll know exactly what each one does. Don't worry, they're not at all cryptic.

These menus (there should be four of them) can be accessed by holding down the right mouse button. Once you've done this, the text displayed within the Workbench titlebar should change to the names of the four menus. Now simply move the mouse pointer over one of these menu headings and the menu attached to that heading should be displayed. You can then select an operation from that menu by moving the mouse pointer down through the menu, highlighting each menu item as it moves. When the mouse pointer is over the menu item you're interested in (it should be highlighted), click the left mouse button and hey presto – the operation should be performed!

Not all pull-down menu items will be so immediately accessible. Some require you to do something else first before they are made available. A good example of this is the Format Disk... option which we shall be covering later. In order for this option to be available, you need to have clicked on the icon for the disk that you wish to format. If an operation is not available, it will not be highlighted when you move the mouse pointer over it and its name in the menu will be ghosted.

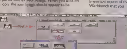
The Workbench isn't the only program that uses pull down menus. Most Amiga applications such as word processors, paint packages and music programs use exactly the same technique, so once you've mastered the Workbench's pull down menus, using other programs becomes a doddle.



Pull down menus are an important aspect of the Amiga's Workbench. They contain lists of operations which can be performed simply by selecting the operation you're interested in with the left mouse button.

would be to simply point at the pasty you wanted no matter what language that shop keeper understood, gestures such as these are universal. All you've got to do then is to try and suss out the currency without the shopkeeper ripping you off!

Obviously, it's very unlikely that your Amiga will ever try to sell you a pasty, but the techniques are pretty much the same. The basic idea behind the Workbench is that you communicate with your Amiga by moving an on screen pointer around the screen using the mouse controller. In turn, the Amiga displays little pictures (icons) that represent certain operations. By moving the mouse pointer over an icon and then clicking the left mouse button, the operation associated with that icon will be performed by your Amiga. When you click on an icon, the icon image should appear to be reversed – don't worry, this is simply the Amiga's way of showing you that the icon you've just clicked on has been selected.



Double clicking on a drawer icon will cause the Workbench to display the contents of that drawer in a separate window.

There are two ways of actually selecting an icon, however. If you click on an icon once, then you're simply telling the Workbench that you'd like to perform an operation on that icon. If you double click on an icon (press the left mouse button in quick succession), however, you're telling the Workbench that you'd actually like the operation associated with that icon to be performed. Workbench treats the programs that it attaches icons to in exactly the same way – if you wanted to load a paint program, for example, you'd have to double click on its icon in order for it to be run. If you find that even when you double click on an icon the program still doesn't run, then chances are that the time between your first and second mouse clicks is too great – try double clicking a bit faster and it should work.

DISK ICONOGRAPHY

Virtually all the operations offered by the Amiga's Workbench are geared towards working with disks and the files and directories that they contain. When you insert a disk into the disk drive inside your Amiga, the Workbench will automatically sense its presence and a disk-shaped icon will appear on the Workbench screen. This is Workbench's way of letting you know that it's successfully found the disk and it's made it available to you. You'll notice that the Workbench will also display the name of the disk below its icon – the Workbench disk, for example, will have the label Workbench3.0 below it. All disks can have their own name which is stored on the disk in what's known as the directory track.

You can view the contents of a disk from the Workbench too, simply by moving the mouse pointer over the disk icon and double clicking on it. The Workbench displays the contents of a disk by opening up what is known as a window. Windows are another important aspect of the Workbench that you should be aware of. They basically act as frames that are used to contain a groups of related icons. Each program, file or directory within the root directory of a disk will have its own icon and the Workbench will group them together inside a single window.

FILE OPERATIONS

The Amiga's Workbench isn't just designed to handle the task of viewing the contents of disks – you can also perform all manner of common operations on the contents of a disk including the copying of files between disks and drawers, deleting and renaming files. We've already looked at how to load a program from the Workbench, so let's take a look at a couple of the more common housekeeping chores you might want to perform on the contents of a disk.

Copying files from the Workbench is very simple indeed once you understand the basic techniques involved. The Workbench allows you to copy either a single file or a group of files either to another directory on the same disk or to a completely separate disk altogether. The easiest of these two operations is the copying of files between directories on the same disk – all you have to do is to display the contents of the source drawer and the destination drawer by double clicking on their associated drawer icons. If all went well, you should see two windows on the Workbench screen – one containing the file that you wish to copy and the other showing the

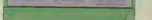
ICON MANIA

Icons are used by the Amiga's Workbench to represent particular objects or operations in a pictorial form. The Workbench uses primarily three different type of icon – disk icons, drawer icons and file icons. Disk icons are automatically attached to any disks that you insert in the Amiga disk drives and they provide a quick and easy method of identifying a particular disk from any others you may have inserted into other (external) drives. When you double click on a disk icon, the Workbench will display its contents in a window.

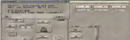
Drawers are slightly more complex as they are treated as almost disks within disks. A drawer is essentially a pigeon hole on a disk that is used to split files into groups. The best way to understand drawers is to think of the drawers in a bedside cabinet – although all the drawers belong to the same cabinet, each drawer can contain its own unique contents and unless you're a scruffy so-and-so, the drawers can help to organise the contents of the cabinet considerably – you could have underwear in the bottom drawer, socks in the middle drawer and your copies of CU AMIGA in the top drawer. Without drawers, all of these items would be mixed in together and the result would be nothing short of chaos (putting a copy of CU AMIGA on your feet whilst reading your socks can be embarrassing!)

When you display the contents of a disk that contains drawers, only the files that are in the same directory as the drawers themselves will be displayed. If you want to display the contents of a drawer, you have to double click on the drawer's icon and the Workbench will display a second window containing all the icons for the files (or drawers) within that drawer.

Lastly, file icons are attached to the individual files on your disk. Each file can be anything from a simple data file (such as a picture you've drawn in DPaint) to a program which can be run by double clicking on its icon.



The Workbench uses primarily three different types of icon, each of which is attached to a particular type of disk object.



Once your disks start to become cluttered, you can easily remove both files and whole drawers using the Workbench Delete pull down menu option

contents of the drawer you wish to copy that file to. All you have to do to actually start the copying process is to move the mouse pointer over the file, click and hold the left mouse button over the icon and then (whilst still holding down the mouse button) drag the icon into the destination drawer and let go of the left mouse button. When you drag the icon it should follow the mouse pointer across the screen. If all went well, the disk drive light should come on and within a second or two the file will be copied to its new location.

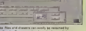
Copying files between disks is somewhat more involved unless you're lucky enough to own an Amiga equipped with two or more disk drives. If your Amiga only has a single drive however, follow these simple instructions. First insert the disk containing the source file and then double click on the disk's icon to display its contents. Enter the drawer containing the file and then remove the source disk. Don't close the windows you've just opened however – we'll need them later!

Next, insert the disk that you'd like to copy the file to and then double click on its disk icon to bring up a window containing its contents. Double click on the drawer you'd like the file copied to and, once it appears, move the mouse pointer over the icon for the file that you'd like to copy (you didn't close the windows when you removed the source disk did you?) and then click and hold the left mouse button and drag the icon across into its new drawer. Unless you've got a twin-drive system, the Amiga will prompt you to swap the source and destination disks a couple of times, so just follow the on screen prompts and you won't go far wrong.

RENAMING AND DELETING FILES

Once you start working with your Amiga, whether you're drawing pictures in your favourite paint program or writing letters to long lost friends, you'll undoubtedly find that you'll eventually want to rename disks, drawers and even files. To rename any type of icon, simply move the mouse pointer over it, click on it with the left mouse pointer and then select Rename from the Icons pull down menu. If you selected the operation correctly, a requester should pop up onto the screen containing a string gadget (a string gadget is simply a type of gadget that you can type text into) with the current name of the icon you've selected. When you click the mouse pointer inside the gadget, a cursor should appear that marks where any text that you type will be entered. Simply delete the existing name (using the backspace key) and then enter the new name. Once you're happy with the new filename, press the return key and the Amiga will rename the file using the name you entered.

Files and even drawers can be deleted just as easily and they can be renamed too. You may find that after using the same disk to hold all your files, it will start to become rather full after a while. This is where the Workbench's delete function comes in handy. The use of the delete function is pretty obvious – it removes a file or drawer (and also the entire contents of that drawer) from the disk that they are on, freeing up valuable disk space in the process. To delete a file, simply select it with the left mouse button and then move the mouse pointer up to the Icons pull down menu and select the Delete menu item. A requester will then appear asking you if you're really sure about what you're trying to do. Be very careful – once you've deleted a file or a drawer, it's virtually impossible to get them back! If you are sure, however, click on the Ok gadget and the Amiga will start to remove the file or drawer from your disk.



Disks, files and drawers can easily be renamed by selecting the Rename option from the Icon pull down menu

FORMATTING AND COPYING DISKS

If you've already played around with Workbench you may have noticed that the Amiga doesn't like blank disks unless they are formatted first. If you try saving a file onto a disk that hasn't been formatted beforehand, the Amiga will reject it. Don't worry – this doesn't mean that the disk is in any way damaged. All you have to do is to format it and the Amiga will then happily accept the disk as one of its own. Formatting is a very simple process that essentially prepares a disk. It's a bit like buying a chest of drawers from a DIY centre – to conserve valuable warehouse space, the DIY centre sells the drawers in kit form. When you get them home it's down to you to prepare (build) the kit into a usable chest of drawers. What's more, disks are a lot more reliable than flatpack furniture (mine keeps falling apart!), so once a disk has been formatted, it doesn't have to be formatted again.

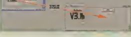
Formatting a disk under the Workbench is very simple indeed. Start by removing your Workbench disk and then insert the disk that you wish to format. Although a disk icon will appear on the Workbench for that disk, this doesn't mean that it has already been formatted – if the disk name is "DF0:????" then the disk will have to be formatted. Click once with the left mouse button on the disk's icon and then select the Format Disk... option from the Icons pull down menu. The Amiga should then ask you to reinsert your Workbench disk. Do what it says and then after a few seconds disk access you'll be asked to reinsert the blank disk. After a few short checks (just click on the Ok gadgets to skip these) the disk will start to format. As the disk is being formatted the Amiga will display a small graph showing the progress of the formatting process. Once this is done, the graph window will close and your disk will be renamed Empty. It's now ready for use!

COPYING DISKS

The Amiga's disk drives are generally very reliable, but accidents do happen – a disk could suddenly develop a fault or you might even spill a cup of coffee all over it. If all your important files are on a disk that has developed a fault, then you might as well wave goodbye to all your valuable data – it is possible to rescue some files if the disk is not that badly damaged, but there's no hope whatsoever if the disk is clogged up with a strange gooey substance containing a dash of milk and two sugars!

It's therefore a good practise to get into the habit of making backups of all your important disks. Although the Workbench won't back-up your games (these have copy protection built into them that prohibits such practises), you can easily make backups of non protected disks such as those that you formatted yourself under Workbench. Backing up a disk is very simple. Start by removing your Workbench disk and then insert the disk that you wish to copy. Click once on its disk icon and then select the Copy option from the Icons pull down menu. The Amiga will then ask you to reinsert your Workbench disk. Do as it says and after a few seconds a window will appear asking you to insert your source disk. This is the disk that you wish to copy. Do as it says and the Amiga will start to copy the first part of the disk. After a few seconds or so, the Amiga will then ask you to insert the destination disk. This is the disk that you wish to copy the source disk to. Do as it says and after a couple more disk swaps or so, the destination disk will contain an exact copy of the contents of the source disk.

The entire contents of a disk can be transferred en masse using the Workbench DiskCopy function



To copy a file from one place to another, simply click on it and whilst still holding down the left mouse button, drag the file's icon across into the destination directory

Before a new disk can be used on your Amiga, it must first be formatted

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PREFERENCES

If there's an aspect of the Workbench that doesn't quite suit your needs, then why not change it? Check out the Preferences system.

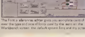
The Amiga's Workbench may be one of the best looking and most user-friendly WIMP systems available on any home computer, but it would be impossible for it to appeal to everyone. Whether it's the colour palette that bugs you or the screen mode, you'll be pleased to know that Commodore were kind enough to provide Amiga users with the ability to modify the appearance and operation of the Workbench further than you could ever imagine. The secret to all this customising power is a little drawer hidden away on your Extras disk called Prefs that, when you double click on it, contains fifteen program icons.

Each of these icons is a Preferences editor that will allow you to modify the actions of a particular aspect of your Workbench's operation. There's a Preferences editor for modifying the Workbench's colour palette, another editor for changing the appearance of the mouse pointer, another for setting up the Amiga's serial port and so on. When you load a Preferences editor (pick an editor – any editor!), the current Workbench settings for that particular editor will be loaded into memory and from then on you can modify them to suit your own particular needs. Once you're happy with your new settings, simply click on either the Use or Save gadgets to make use of them (the Use gadget will make your new settings temporary whereas the Save gadget will make them permanent). Don't worry if you make a total pig's ear of the settings – just click on 'Cancel' and the Workbench will reset itself back to the last saved settings.

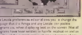
You may have noticed that the Workbench disk contains a Prefs drawer too that doesn't actually contain anything other than a drawer called Presets. If you're using a hard disk based Amiga, both the Preferences editors and this Presets drawer will be in the same drawer, but they're separated on disk based Amigas. So what's in this Presets drawer? Well, the drawer comes in very handy if you'd like to keep several different sets of Preferences settings – say for example you wanted seven sets of colour palette definitions, one for each day. Each and every Preferences editor allows you to save the changes you've made without them effecting the current Workbench settings and then load them in at a later date. Simply select the Save As... and Load... menu items from each Preference editor's pull down menus.

Anyway, that's enough of the theory – let's take a look at what each Preferences editor actually does. As always, the best way to get to grips with anything is to experiment so why not boot up your Amiga, insert the Extras disk and have a play with the programs in the Prefs drawer? Don't worry, you won't mess up your Workbench – just don't click on the Save gadget whenever you make any changes and the Workbench will simply ignore the changes that you've made.

FONT

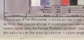


The Font preferences editor gives you complete control over the type and size of fonts used by the icons on the Workbench screen, the default system font and the screen text font. By default, all three of these use the standard Topaz 8 system font, but you can easily change them to just about any size or type of font that is installed in the Fonts directory on your Workbench disk. Be very careful when changing fonts, however – using a 96 point font for your Workbench icons may sound very pretty, but your Workbench screen will become rather confused.



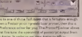
The Locale preferences editor allows you to change the language that the Amiga and any Locale compatible programs use when displaying text on the screen. Not all programs have been written to handle localisation and so very few of the current crop will take advantage of any language settings that you make. When you load up the Locale editor, you'll see a very impressive map of the world with a single white area marked somewhere on the map. This aspect of the editor allows you to control the time zone relative to GMT. Above this are two gadgets labelled Available Languages and Preferred Languages fields, the first of these two gadgets should be a list of the languages available on your system – just click on the one (or ones) that you want to set the language you'd like to work in.

POINTER



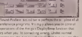
If the shape of the Workbench's mouse pointer isn't what you'd think, then you can change it to suit your own personal rodent tastes using the Pointer Preferences editor. Using this editor is a bit like drawing a picture in a paint program like *DPaint* – simply select the colour that you want to use from the choice of four available and then draw into the enlarged pointer display whilst holding down the left mouse button. As you drag the mouse pointer, new pixels (screen dots) will appear and the results will be previewed in the four displays to the right. This editor also allows you to change the shape of the Busy pointer too, which is produced when the Amiga is working so hard that it's unable to handle anything else. The default shape for the Busy pointer is an alarm clock but you can change it to anything you want.

PRINTERPS



If you're one of those flash types that is fortunate enough to own a Postscript-compatible laser printer, then this is the *Preference* editor for you. The PrinterPS editor allows you to fine tune the operation of postscript output from your Amiga. In order to get your Amiga to talk in postscript, however, you'll also need to choose the Postscript printer driver using the Printer Preferences program. This editor allows you to define the number of copies, the paper format of your printer, text margins and so much more besides.

SOUND



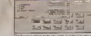
The Sound Preferences editor is perhaps the simplest of all the preference programs. It simply allows you to control the operations of the Amiga's DisplayBeep function that occurs when you do something wrong. Under normal circumstances, the display will simply flash but you can also assign a sound to this function, either a simple beep or even a sampled sound. If you're lucky enough to own a sound sampler, you could even assign a sample of your own voice to the DisplayBeep function so that when you do something wrong, the Amiga will politely (or very rudely) speak to you. The Sound editor also gives you extensive control over the pitch of the sound, its volume and – in the case of a simple beep – the length of the sound.

INSTALLING A PRINTER

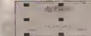
If there's one aspect of the Amiga's Workbench that confuses more than its fair share of users, it has to be the question of installing a printer. Although printers may look rather similar to you, very few of them speak the same language. Built into every printer is a ROM that contains all the instructions needed to print anything from a simple page of text to a complicated graphics printout. In order for your Amiga to be able to send the correct codes required to communicate with your printer, a special file called a printer driver is required.

The printer driver's job is to act as a mediator between the raw codes produced by programs like DPaint and Protext and your printer. The printer driver takes these raw codes and converts them into a format that can be understood by your printer. Commodore supply a variety of different printer drivers designed for the more popular makes of printer – the EpsonQ driver, for example, can drive most 24 pin dot matrix printers that use Epson's control language and the HP-LaserJet driver is designed for laser printers that use Hewlett Packard's HP control set.

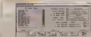
Installing the printer driver that is right for your printer isn't as difficult as you might think. Hidden away in the Printers drawer on your Storage3.0 system disk are a whole host of printer drivers, each of which has its own icon. All you have to do to install the driver that you need is to drag the printer driver icon from this drawer and copy it into the Printers drawer in the Devs drawer on your Workbench disk. Once this is done, load up the Printer Preferences editor discussed above and select the driver from the list that will be produced. Finally, click on the 'Save' gadget and your printer will be ready for use!



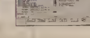
The Ikontrol editor gives you control over a variety of different aspects of the Workbench's operation – screen dragging, Coercion and a number of other miscellaneous functions. The Screen Drag gadgets gives you the ability to drag any screen up or down with the mouse when one (or a combination) of the four keys that you select is pressed. Coercion is a new feature of Workbench 3.0 that attempts to reduce the amount of flicker that is evident when a program opens an interlaced high resolution screen. Finally the miscellaneous flags give you control over how the pull down menus work, text gadget filtering and mode promotion. The first two are pretty obvious, but mode promotion perhaps need a little explanation. Now that the Amiga supports flicker free DBL display modes (when used with a suitable monitor), mode promotion allows you to promote (change) a screen that would normally be displayed in interlace so that it is displayed in a flicker-free mode instead.



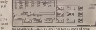
Every Amiga screen consists of two areas – the rectangular region in the centre that the Workbench is displayed on and the border. Thanks to some impressive video hardware inside your Amiga, you can expand the size of the Workbench screen to take advantage of the unused areas that make up the border around the screen. This special feature is called Overscan and – not surprisingly – that's exactly what the Overscan Preferences editor allows you to control. Two types of overscanning can be edited: text and graphic. What's the difference? Well, not a lot really, but text overscan control is provided to stop your text from disappearing off the edges of the screen.



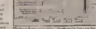
If you're meaning to connect a printer to your Amiga, then this is one of the most important Preference editors available. Although you may think all printers are the same, very few of them are controlled in exactly the same way. To cope with this, the Amiga uses what are known as printer drivers which convert the generic codes produced by your Amiga into codes that your printer will understand. The Printer Preferences editor allows you to select which type of printer driver you wish to use to control your printer, plus it gives you a number of extra controls such as the line spacing, which port the printer is connected to, the print quality (draft or NLQ) etc.



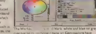
By default, Commodore have set the Workbench up so that it runs in medium resolution mode on any standard PAL screen, but this can easily be changed to another screen mode if you're lucky enough to own a monitor capable of handling higher frequencies. Once loaded, the ScreenMode Preferences editor displays a list of the available screen modes in the left hand side of the window. If you're booting from the standard Workbench disk, chances are that the only screen modes available are 'PAL' modes, but you can easily install NTSC, A2024 and DBLPAL (flicker free) screen modes. Even the basic PAL modes offer six different screen modes – low resolution, high resolution and super high resolution in both standard and interlaced modes.



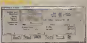
Inside every Amiga is a clock that keeps track of time whenever the Amiga is switched on. If you're lucky enough to have also bought a RAM expansion for your Amiga that features a battery backed clock, then this clock will be continuously refreshed even if your Amiga is switched off! The Time Preferences editor allows you to set both the time and the date so that when you save a file to disk, the Amiga can date stamp it with the exact time and date that the file was transferred. This can come in particularly handy if you have several copies of the same file and you're unsure which is the most recent – if the clock is correctly set, all you need to do is to check the file's date stamp!



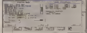
The Input Preferences editor allows you to fine tune the operation of both the Amiga's keyboard and your mouse controller. Its primary function is to let you pick which keymap is assigned to the keyboard – that is, which nationality of keyboard the Amiga should use. Although all keymaps are pretty much the same, setting a British keyboard will give you access to the £ symbol and other UK specific symbols. If you selected an American keymap you'd get a '$' symbol instead of the great British pound sign. Secondly, the Input editor also allows you to define how quickly the keyboard responds to your typing and how much time the Amiga should allow between mouse clicks when you double click on an icon.



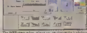
The Workbench's [illegible] black, white and blue on grey may not be to everyone's taste, so Commodore have included a Preference editor to handle this too in the shape of the Palette editor. This editor allows you to modify any of the colours used on the Workbench screen. Simply by clicking on the colour you wish to modify from the strip along the top of the window, you can assign any one of the Amiga's amazing 16.7 million hues to it. The Palette editor allows you to pick a colour using any one of three methods by picking a colour from [illegible] colour by its red, green and [illegible] selecting a shade of the current [illegible] make sure that your colour selection [illegible] Show Sample... option displays a [illegible] Workbench will look like with your [illegible]



Although the Printer editor will give you control over many aspects of how the Amiga controls your printer, printing pictures is an entirely different ball game altogether, which is why there is a separate editor called PrinterGFX. This editor gives you extensive control over how pictures are printed on your printer. To increase the quality of your printouts, this editor allows you to select a number of different dithering patterns and you can turn on smoothing which attempts to smooth out the jagged edges normally associated with bitmapped images.



The Serial Preferences editor is only really of use if you're intending to connect a serial printer to your Amiga. In order for the printer to work with your Amiga, it is necessary to set up the serial port so that the communication protocols used by the Amiga match those used by your printer. As well as the baud rate (the speed of data transmission), the Serial editor allows you to set the type of handshaking used, the parity, the number of bits (7 or 8) and the number of stop bits.



The WBPattern editor allows you to change the backdrop pattern used on both the Workbench screen and within any windows that you open on the Workbench. When you first load the editor, you should see a whole host of gadgets but the two we're interested in are labelled Placement and Type. Both of these gadgets use what are known as cycle gadgets – when you click on the gadget, the text within the gadget will change. The Placement gadget allows you to swap between the Workbench pattern and the window pattern and the Type gadget allows you to select either a pattern or a picture. If you select Pattern, you can design your own pattern using the editor on the right hand side of the editor's window. Selecting Picture will allow you to use an IFF picture instead.

Installing a printer driver is very simple indeed. Transfer the driver that you want from the 'Printers' drawer on your 'Storage3.0' disk to the Devs/Printers drawer on your Workbench disk. Once this is done you'll need to select the driver for use with the 'Printer' Preferences program.

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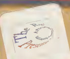

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AMIGADOS EXPOSED

If you want to unlock the real power of your Amiga, then AmigaDOS is for you. Jason Holborn demystifies the secrets of the Shell.

No one could possibly argue that the Amiga's Workbench is underpowered, especially when compared to WIMP systems on the PCs and Macs of this world, but it won't let you do everything. Sure, the Workbench provides a nice and easy method of carrying out those day to day computing chores such as formatting disks, copying files etc, but if you want to really get your hands dirty, you need to get to grips with the AmigaDOS Shell environment.

As your skills with the Amiga begin to develop, you'll gradually find that the Workbench is just too simple to handle every task that you throw at it. Even the ultra powerful version of Workbench bundled with all Amigas since the release of the A1200 won't let you do everything. Commodore's software engineers knew this too, which is why the Amiga also supports another method of controlling your it's operation – the AmigaDOS Shell. The Shell provides you with a simple method of accessing the power of the Amiga's Disk Operating System (AmigaDOS), the part of the Amiga's low level operating system (the Amiga 'brain' if you like) that is solely responsible for handling disk drives. AmigaDOS doesn't run programs – it just handles the transfer of data to and from your Amiga's floppy and hard drives.

AmigaDOS itself is nothing more than a collection of routines built into the Amiga's ROM which obviously can't be accessed by the user. The Amiga does, however, allow you to make use of these powerful routines via the Shell which is a program that acts as a mediator between you and your Amiga's disk operating system. This power does come at a price, however – gone are the fancy icons, easy to use pull down menus and the blatantly obvious mouse control offered by the Amiga's Workbench.

Don't let this put you off. Using the Shell isn't that frightening. Using the Shell is a bit like using computers of old – instead of pointing and clicking on icons, everything you want the Amiga to do must be entered via the keyboard in the form of a command. Very few of these commands are actually built into the Amiga – most of them are on your Workbench. Hidden away on your Workbench disk is a drawer called C (short for Commands) that contains an almost bewildering number of tiny program files specifically designed for use with the Shell. Each of these programs performs a particular task – there's a command to copy a file, a command to delete a file and so on.

Accessing the Shell is very easy indeed. Simply boot up your Amiga with your Workbench disk, double click on the Workbench disk icon and the contents of the Workbench will be displayed. Lurking somewhere within the Workbench window should be a drawer labelled System – double click on this and a program called Shell should appear within the System window. Double click on this and a window should appear containing nothing more than the text 1.SYS followed by an orange-coloured cursor. Try typing your name and then press the return key – if all went well, the Amiga should have responded with your name followed by the line 'Unknown command'.

So what has happened? Put simply, each time the 1.SYS prompt appears on the screen, the Amiga is waiting for you to give it something to do. When you enter a command, the Amiga checks through the list of Shell commands that it has in its C directory and, if the first word in the instruction that you pass it matches the name of one of its commands, that command is executed. If, on the other hand, you enter something that it doesn't understand, it will display the 'unknown command' error message followed by the 1.SYS prompt again.

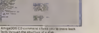
Each time you enter a line of text into the Shell, it splits the command down into the individual words that form the command. If, for example, you entered 'format my disk', the Shell would split this into three words: format, my and disk. The first word in the line (format) is treated as the name of the command and the two words that proceed it are treated as parameters. Parameters are simply instructions that are passed to the command that you've entered. AmigaDOS isn't at all interested in the parameters that you pass, so it's therefore down to the command itself to make sure that the parameters that you pass are acceptable. If you pass parameters to a command that aren't acceptable, it's the command itself that will display an error message and not AmigaDOS.

Right, now that we've discussed the basics of working with the Shell, let's get stuck into some common Shell commands. The Shell offers an almost bewildering array of commands that will allow you to perform the same disk maintenance tasks that the Workbench makes so simple plus a whole lot more besides. You can format disks, copy disks, copy files to and from disks, delete files, create directories. In fact if you can think of a disk operation, chances are that AmigaDOS has a command that can handle it. What follows is a brief description of some of the more common Shell commands that you'll need to master in order to get the most from the Shell. So without further ado, boot up your Amiga, load up the Shell and give them a whirl!

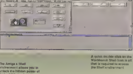
CD - PATHNAME

The CD command changes the current directory. That is, the directory you are currently working in. When you first load the Shell program, the current directory is always set to the root directory of your boot disk, be it your hard disk or Workbench disk. If you want to work on the files in another directory, however, it's much simpler to change the current directory setting using the CD command than it is to keep on typing in the directory's pathname. All you have to do is to give the CD command the pathname of the directory that you'd like the current directory changed to.

Say, for example, you wanted to work on the files in a directory called MyDir on a disk called MyDisk. Instead of having to type MyDisk:MyDir/Filename for every file you wished to work on, you could simply type CD MyDisk:MyDir and the current directory will change to that directory. You can now access the files in that directory without having to enter the full pathname.



The AmigaDOS CD command allows you to move back and forth through the structure of a disk.

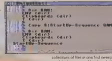


A quick double click on the Workbench Shell icon is all that is required to access the Shell environment.

The Amiga's Shell environment allows you to unlock the hidden power of AmigaDOS, the Amiga's powerful disk operating system.

The copy command is used to make a copy of a file either from one disk to another or to another directory on the same disk. Using wildcards you can even use the Copy command to copy a whole batch of files en masse. Using the Copy command is very simple indeed – simply feed it the filename of the file that you want to copy (complete with its path if necessary) and the name of the directory that you'd like to copy the file to and AmigaDOS will do the rest.

If you simply specify a path as the destination the file will be copied using its original filename but if you specify a new filename the copied file will use that filename instead. Say for example you wanted to copy a file called Jim to a disk called Fred – all you'd have to do is to enter "Copy Jim To Fred". The Copy command would then produce an exact copy of the file called Jim onto the disk called Fred. If on the other hand you entered "Fred:MyNewFile" for the destination the copy of Jim would automatically be renamed as "MyNewFile".



```
> Dir RAM:
ENV (dir)
Clipboards (dir)
T (dir)
> Copy S:StartUp-Sequence RAM
> Dir RAM.
ENV (dir)
Clipboards (dir)
T (dir)
StartUp-Sequence
```

The Copy command provides a quick and easy method of transferring a file from one place to another

The purpose of the delete command is pretty obvious but for those of you who are less perceptive its sole role in life is to remove files and/or drawers from your disks. Using the delete command is very simple indeed – all you need to do is to feed it the filename of the file that you'd like to delete. Say for example you wanted to delete a file called MyFile on a disk called MyDisk. Not surprisingly all you'd have to enter is "delete MyDisk:MyFile" and the file is history!

The delete command can handle wild cards as well so it's perfectly possible to delete entire collections of files in one foul sweep. Be very careful when using wildcards with this command though – if you have a file that is important to you that matches the wildcard pattern for the files that you're deleting it will be deleted too if it's in the same directory.

Deleting drawers is somewhat more involved. The delete command has an extra optional called "All" that can tell the command to delete not only a directory but its contents too. If for example you wanted to delete a drawer called MyDrawer on a disk called Fred all you'd have to enter is "Delete Fred:MyDrawer All" – it's as simple as that!

ON THE RIGHT PATH

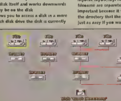
Before we dive in and start discussing the sort of things that AmigaDOS is capable of it's important that you grasp a few basics. One of the fundamental aspects of AmigaDOS that you must understand in order to get to grips with it is how AmigaDOS addresses disks. From the Workbench this is very simple indeed – all you do is insert a disk once the Workbench is loaded and a disk icon will pop up onto the screen. Then all you have to do is to double click on the disk's icon and you're given immediate access to its contents. AmigaDOS, on the other hand, isn't quite so straightforward.

As we discovered in our look at the Amiga's Workbench all disks have a name attached to them that is used to identify them. AmigaDOS allows you to identify a particular disk by simply passing it the name of the disk followed by a colon symbol. If, for example, you wanted AmigaDOS to perform an operation on a file held on a disk called Fred, you could tell AmigaDOS to use this disk by referring to it as Fred:' (note the colon). If the file was called Jim, the full pathname would therefore be Fred:Jim. Oops! We've introduced a jargon term which should be explained – pathname. A pathname is simply a description of where on a disk a particular file can be found which starts from the disk itself and works downwards through any drawers that may be on the disk.

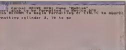
AmigaDOS also allows you to access a disk in a more indirect way by telling it which disk drive the disk is currently inserted into. Each drive on the Amiga has its own device name which is similar to the names given to disks but they refer to the disk drive unit itself rather than the disk that is in the drive. The internal drive fitted to your Amiga is called DF0: (note the colon again!) and any further drives that you fit to your Amiga will be called DF1:, DF2:' and so on (up to four drives are allowed). Unlike disks, however, the names given to disk drives are fixed, so you can't change them. Just for your reference, the DF bit stands for DEVICE FLOPPY.

It's important to understand the structure of a disk too. When you first format a disk, you may think that it contains absolutely nothing. This isn't quite true, however, all disks have at least one drawer – the disk itself. This special drawer (or directory, as they are called under AmigaDOS) has an equally special name which is referred to in jargon terms as the Root Directory. All drawers that you create on a disk branch off from this direct root directory.

Specifying a file that can be found in the root directory of a disk is very easy indeed – all you need to do is to tell AmigaDOS the name of the disk (or the name of the device that the disk is in) followed by the name of the file and you're away. But what happens if your file is located in a directory? Well, you'll be pleased to know that this is just as simple. As you will know, all directories (drawers) have their own unique names, just like a disk or a file. If, for example, you wanted AmigaDOS to have access to a file called MyFile that was in a directory called MyDir that itself was on a disk called MyDisk, all you'd have to do is to extend your pathname to MyDisk:MyDir/MyFile. Note how the directory name and the filename are separated by a backslash symbol – this bit is very important because it tells AmigaDOS that MyDir is the name of the directory that the file MyFile can be found in. The theory is just as easy if you wanted to ascend down through more than one drawer – say for example MyDir was itself in a directory called MyOtherDir. The pathname for this would simply be MyDisk:MyOtherDir/MyDir/MyFile. Note how the pathname starts with the name of the disk and then works down through the disk structure until it finds the name of the file that you're interested in. Easy eh!



The structure of all disks can be viewed in the form of a tree structure. In order to access the highlighted file you must start from the front of the tree (the root directory) and work up through the drawers that contain it



```
1> Format DRIVE DF0: Name "MyDisk"
Insert disk to be formatted in device DF0
Press RETURN to begin formatting or CTRL-C to abort:
Formatting cylinder 3, 76 to go
```

You don't have to resort to the Workbench every time you wish to format a disk – simply use the Format command!

The type command comes in very handy when you need to display the contents of a text file. Simply by passing it the filename of the text file that you'd like to display, the type command will display it within the Shell window. If the text file is longer than the total length of the Shell window the text will scroll up the screen until the entire contents of the file have been displayed. You can halt the scroll at any point, however, simply by pressing the space key and you can resume the scroll by pressing the Backspace key. Fancy an example? Okay, give this a try: Type S:StartUp-Sequence. This command displays a file called StartUp-Sequence which is held in the S directory of your boot disk. FORMAT DRIVE <Device> NAME <DiskName> Not surprisingly, the format command does exactly the same job as the format disk. option on the Workbench but the whole process is carried out within the current Shell window. Simply feed it the name of the disk drive that the disk is in and the name that you'd like to give the disk and AmigaDOS will prepare the disk for use. Note the extra DRIVE and NAME bits: although these serve no useful purpose AmigaDOS insists that they are added so that the name of the device and the name that you'd like to give the disk are kept separate.

Say, for example, you wanted to format a disk that was in the internal drive and give it the name MyDisk. You would therefore enter: Format DRIVE DF0: NAME MyDisk. Be very careful when formatting disks... If you format a disk that contains important files they'll be lost forever once AmigaDOS starts to format the disk.

Talk about bloomin' obvious! Guess what the 'DiskCopy' command does? That's right – it offers you a prize... er, it copies the entire contents of one disk to another. Just like the Format command it requires two parameters... the name of the floppy drive holding the source disk (the disk that you want to copy) and the name of the drive holding the disk that you'd like it copied to. Even if you only have a single drive on your Amiga, you can still use the Diskcopy command – simply specify the same source and destination drive name and the Amiga will prompt you to swap disks whenever necessary. Don't worry... copying an entire disk takes no more than four or so disk swaps.

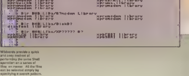
Unlike other machines we could mention the Amiga doesn't automatically assume that the destination disk has already been formatted, so you can copy a disk to an unformatted disk. Because the Amiga copies the disk at a very low level, even the format of the source disk is copied too! If you're thinking about pirating games, a word of warning – most games are copy protected so attempting to copy a game disk using the Diskcopy command will not work. Anyway, this sort of thing is very immoral so don't be tempted... the more games you copy the less chance you have that Amiga games programmers will continue to produce state of the art games for your machine!

WILDCARDS

Working on individual files is all very well if you're only working with two or three files, but can you imagine the drudgery of having to copy hundreds of files?! If you were to manually copy each file individually, it would take you literally hours! A much better solution is to take advantage of wildcards, a very clever technique offered by AmigaDOS that allows you to tell a Shell command to work on more than one file at a time using a search pattern to pick out the files that you do want from those that you don't.

Say, for example, you had a directory filled with files that ended in .BAK. Simply by telling AmigaDOS that you'd like it to work on all files that ended with this extension using a search pattern, all the files could be processed with a single command. Pattern matching uses two special symbols: '?' and '#?'. The ? symbol means any single character and the #? means any number of characters. Going back to our earlier example, you could use the #? wildcard to select all files that ended in .BAK using the search pattern #?.BAK. Alternatively, you could be more selective by restricting the pattern matching to any files that ended with .BAK but started with the letter S – the resulting wildcard would be 'S#?.BAK'. This wildcard could produce anything from 'SANDRA.BAK' to 'SABATINI.BAK'.

The ? symbol gives you far more control over the exact format of the files that the pattern selects. Because each ? symbol represents just a single character, a wildcard such as A?IGA would only select filenames that were exactly five characters long and started with A and ended with IGA – AMIGA and AZIGA would be selected but AMMMMIGA would not.



```
1> Dir DH0:Libs/X#?.library
  xemamfos.library               xemascii.library
  xemibm.library                 xemvt340.library
  xpkBLZW.library                xpkFAST.library
  xpkNUKE.library                xpkSHRI.library
  xprascii.library               xprbplus.library
  xprimodem.library              xprkermit.library
  xprquickb.library              xprvms.library
  xprxmodem.library              xprymodem.library
  xprzmodem.library
1>
1> Dir DH0:Libs/#?modem.library
  xprimodem.library              xprxmodem.library
  xprymodem.library              xprzmodem.library
1>
1> Dir DH0:Libs/Disk#?
  diskfont.library
1>
1> Dir DH0:Libs/XP?????.#?
  xpkBLZW.library                xpkFAST.library
  xpkNUKE.library                xpkSHRI.library
1>
1>
```

Wildcards provide a quick and easy method of performing the same Shell operation on a series of files en masse. All the files can be selected simply by specifying a search pattern.

SINGLE DRIVE SHELL

Although AmigaDOS will work perfectly well on an Amiga with nothing more than a single floppy drive, it isn't always that practical. Because all the Amiga's Shell commands are held on the Workbench disk the Shell needs constant access to this disk in order to use those commands. If you remove the Workbench disk and then enter a command such as CD DF0: the Amiga will almost immediately prompt you to reinsert the Workbench disk. Problem is, as soon as you insert the disk, the CD command will be executed and the current directory will be set to your Workbench disk rather than the disk that you actually wanted to CD to.

Thankfully, there is a way of getting around this problem by making use of the Amiga's RAM disk, a sort of pseudo floppy disk that is held within the memory of your Amiga. The RAM disk isn't a real disk drive – it's simply an area of memory inside your Amiga's RAM that AmigaDOS treats as a disk. It does come in jolly handy for temporarily storing AmigaDOS Shell commands, however. Simply by copying the Shell commands from your Workbench C directory onto the RAM Disk and then telling the Shell that you'd like it to look in the RAM disk for its Shell commands, you can stop the Amiga from pestering you for the Workbench every time you enter a Shell command.

All we need to do this are two commands: COPY and PATH. We've already looked at the Copy command but the Path command's new. What it basically does is to tell AmigaDOS that it should use a named path (hence the command's name) as a search directory whenever it attempts to load a Shell command. Enter the following lines and then remove your Workbench disk and enter one of the commands that have been transferred – if all went well, the command should run without asking you to reinsert your Workbench disk.

```
CD c
Copy DIR COPY DELETE TYPE Ram
Path Ram ADD
```

WRITE AND PAINT

Let's take at look at Deluxe Paint and Wordworth 2, two of the software packages bundled with your Amiga A1200.

If you were lucky enough to receive the Amiga Desktop Dynamite bundle with your Amiga 1200 then you should have found a number of extra programs lurking at the bottom of your Amiga's box. Those two freebie games are a lot of fun, but Commodore know that Amiga users are a creative lot which is exactly why you should have also received copies of Electronic Arts' *Deluxe Paint IV AGA* and Digita's *Wordworth 2 AGA*. These two packages aren't just stocking fillers either – both *DPaint* and *Wordworth* are two of the best examples of their genre available for the Amiga.

Deluxe Paint is possibly the most famous Amiga program ever written (second only to Workbench, that is!). Originally released little more than a couple of months after the release of the very first Amiga, the A1000, *Deluxe Paint* has remained the number one Amiga painting program ever since. The version of *Deluxe Paint* bundled with your Amiga is a far cry from the original *DPaint*, however – version IV has been specifically written to handle the extended graphics modes offered by the A1200. As a result, you can paint pictures that take full advantage of the amazing 16.7 million colour palette at your disposal using any one of the many screen modes on offer. *DPaint* isn't just great for producing static pictures either – believe it or not, but you're now the proud owner of one of the best Amiga animation programs too!

Wordworth is no poor relation either. Everyone needs a word processor, whether you want to write a love letter to your beloved, a stroppy letter to your bank manager or even a Nobel winning novel. *Wordworth* is more than man enough for the job. *Wordworth* isn't just a straight word processor either – thanks to the Amiga's powerful graphics capabilities, *Wordworth* will even allow you to pull pictures into your documents for that truly professional finish. Just like *DPaint*, the version of *Wordworth* bundled with your Amiga has been specifically written to handle the capabilities of the A1200's AGA chip set, so you can display pictures on the screen with up to 256 colours!

Over the next two pages we'll be taking a good long look at these two packages and how to get started with them. By the time you reach the end of our guide, you should be well on your way to mastering these two packages!

DPAINT IV AGA

Deluxe Paint IV AGA is a powerful paint program that will allow you to create fantastic artwork on your Amiga's screen without ever having to get your fingers mucky with the more conventional artist's tools. Instead of using a paint brush and pots of paint, *Deluxe Paint* transforms your Amiga's mouse into an artistic tool that can be used to daub electronic pixels onto your Amiga's screen. What's more, *DPaint* gives you a lot more colours to work with – up to 262,000 from a massive palette of over 16.7 million shades!

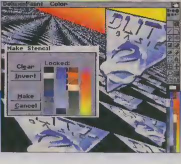
Like most paint programs, *DPaint* provides you with a set of drawing tools, each of which produces a specific result – there's a tool for drawing lines, another for drawing boxes and so on. This may sound rather inflexible, but believe me, *DPaint* can be used to create just about any type of artwork ranging from a simple stick man to a full blown Monet!

When you first open the *DPaint* box, the disks that lie within will not work directly on your Amiga. In order to stop you from using your original disks, *DPaint* must first be installed either onto your hard disk (if you're lucky enough to own one!) or onto a seperate set of disks. Don't worry, this isn't as painful as it sounds. Simply insert your *DPaint* Install 1 disk into your A1200's internal drive, double click on its disk icon and then load up either the Install Floppy or Install HD programs depending upon on the type of storage medium you'd like *DPaint* installed onto. The Install utility that will pop up onto the screen will take you through the process of installing *DPaint* as painlessly as possible.

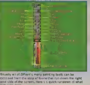
Once *DPaint* has been installed, you should have a disk containing the *DPaint* program icon (a triangle with a paint brush through it). Double click on this and after a few moments the *DPaint* screen mode requester will appear. This requester allows you to tell which screen mode you'd like *DPaint* to work in – if you scroll down through the list, you should see a bewildering number of choices, each of which has its own particular capabilities. For the meantime, however, select the PAL Low Res mode. Below this you should see another gadget labelled Palette Size with the number 256 by the side of it. Not surprisingly, this gadget allows you to select how many colours *DPaint* should use. 256 is fine for our purposes, so click on the Use gadget and the *DPaint* screen should appear.

Running down the right hand side of the *DPaint* screen you should see a strip of gadgets and below this a selection of 64 colours. These gadgets are the *DPaint* tools which when you click on them give you access to *DPaint*'s powerful drawing functions. Below this is the colour selector which – not surprisingly – allows you to pick a colour which will be used when you draw onto your electronic canvas. Hiding below this is yet another gadget labelled 2 with two little arrows either side of it: click on one of these arrows and even more colours will be revealed!

Using the tools in the *DPaint* toolbar couldn't be simpler – simply click on the tool that you want



Hiding in the bottom of your Amiga's box should have been a copy of *Deluxe Paint IV AGA*, possibly the Amiga's most powerful paint program yet.



Virtually all of DPaint's many painting tools can be accessed from the strip of icons that run down the right hand side of the screen. Here's a quick rundown of what each icon does

with the left mouse button pick the colour that you want to use from the colour selector and then move the mouse pointer onto the canvas (the blank area of the screen) and then whilst holding down the left mouse button start drawing. As always the best way to get to grips with a program like DPaint is to experiment – give it a try. I think you'll find DPaint to be a fascinating and very rewarding program indeed!

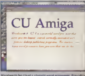
WORDWORTH 2

Possibly one of the most immediately useful programs you could ever want to own has to be a word processor. The word processor is a sophisticated program that will allow you to prepare documents on your Amiga's screen without having to reach for the Tipex every time you make a mistake. This is perhaps the major difference between working with a word processor and banging out text on a typewriter – if you make a mistake or you'd like to change the flow of your document you're free to hack the document about as much as you like without having to start again from scratch. You don't have to be a celebrated author or a CU AMIGA journalist to find a word processor useful either – even if you only need to write a quick note to your friend in Australia or even the Bank Manager you'll find using a word processor a lot less hassle than having to resort to your old 1950's Singer!

Up until now Amiga users were forced to actually pay for a word processor if they wanted to have access to all this word crunching power but Commodore have very wisely decided to bundle one of the best Amiga word processors with your Amiga as standard – *Wordworth 2 AGA*. *Wordworth* isn't like the word processors you've probably seen on your friend's PC. *Wordworth* is perhaps better described as a word publisher. That is it also provides you with many functions previously only found in expensive desktop publishing programs. What this basically means is that *Wordworth* provides you with far more flexibility over the layout of your documents – you can even include pictures if you so wish!

Anyway enough of the waffle – let's get stuck into the program. Insert your *Wordworth* program disk, double click on the 'Ww' icon and the Amiga will automatically prompt you to insert your *Wordworth* Printer fonts disk. Strange maybe but there's a very good reason for this – the *Wordworth* program is actually on this disk! Simply follow the on screen prompts and after a while the *Wordworth* screen should pop up onto the screen. This may require a lot of disk swapping if you only have a single drive so be patient.

The *Wordworth* screen is split into two sections: the main page and an icon strip that runs down the left hand side of the screen. The page isn't that different from a real page that you'd feed into a typewriter. Simply type your text into the Amiga using the keyboard and the characters that you've typed should appear on the screen! You'll

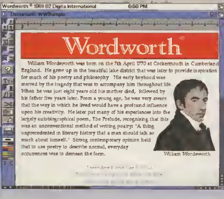


Wordworth isn't just a straight word processor. Providing direct support for multiple fonts and picture importation Wordworth is closer to a desktop publisher!

notice a little flashing line that moves across the screen as you type – this is the cursor which marks where on the page the text that you type will be entered. You can move this cursor around your document using either the arrow keys on your Amiga's keyboard or simply by clicking the mouse pointer where you'd like the cursor moved to. Note that if you've only entered a single line of text the cursor can't be moved anywhere else other than on this line. You can also delete text too by pressing the backspace key on your Amiga's keyboard. Note how the characters immediately to the left of the cursor are deleted.

Whole lines and even paragraphs of text can be cut, copied and pasted down elsewhere on the page simply by marking the block of text that you wish to manipulate. Marking text is very simple indeed: move the mouse pointer to the start of the block and then hold down the left mouse button and drag the mouse away from its starting position. If all went well the text between the start position and the current mouse position should be highlighted. If you now press the 'Backspace' key again the block of text that you've highlighted will be deleted. Good eh!

Wordworth is a very powerful program and so it would be impossible for us to cover every feature of this program in detail. As was the case with *DPaint* the best way to get to grips with it is to experiment. Don't worry – anything you do in *Wordworth* will have no effect on your Amiga so feel free to experiment!



Wordworth®

William Wordsworth was born on the 7th April 1770 at Cockermouth in Cumberland England. He grew up in the beautiful lake district that was later to provide inspiration for much of his poetry and philosophy. His early boyhood was marred by the tragedy that was to accompany him throughout life. When he was just eight years old his mother died, followed by his father five years later. From a young age, he was very aware that the way in which he lived would have a profound influence upon his creativity. He later put many of his experiances into the largely autobiographical poem, The Prelude, recognising that this was an unconventional method of writing poetry: "A thing unprecedented in literary history that a man should talk so much about himself." Strong contemporary opinion held that to use poetry to describe normal, everyday occurrences was to demean the form.

William Wordsworth

I wandered lonely as [illegible]

[illegible]

[illegible] word processor? [illegible] look no further than [illegible] SGA the [illegible] word processor [illegible] with the Amiga [illegible] the [illegible] up [illegible] Dynamite pack

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Silsoe Village Scene by Gordon Chambers, typeset by Leaside Graphics, Luton

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- Workbench 3 0 DCFS filing system (Kickstarts 1 2+)
- Transparently supports all Amiga filing systems and disk capacities 880K, 1 76Mb OFS, FFS etc Fully compatible with the A4000 s high density disks
- Butit in protection against bootblock viruses
- Autoboot feature with all Kickstarts
- Compatible with the KCS Power PC Board
- Works with all Amigas running Kickstart 1 2 or higher
- Includes hard drive backup software
- Reads and writes PC disks on any Amiga
- High speed analogue external disk copier
- Includes software track display
- Low-power consumption
- Low-profile case - colour matched to Amiga
- Easy to install and customise
- Whisper quiet NEC mechanisms
- Hardware compatible with Blitz, Synchro, Express, Cyclone and Cyclone T2
- Developed in the Netherlands by Kolff Computer Supplies, producers of the acclaimed KCS Power PC Board

Comparision by Feature

Features	Competitor	KCS HD²
Kickstart	2 04+	1 2 or better
Double-density	880K formatted	better than 2Mb
High Density	1 76 Mb formatted	better than 4Mb
FILING SYSTEMS		
FFS	Workbench 3 0	Yes all Amigas
International	Workbench 2 1+	Yes all Amigas
PC 720K	Workbench 2 1+	Yes all Amigas
PC 1 44	Workbench 2 1+	Yes all Amigas
DCFS	Workbench 3 0	Yes all Amigas
SOFTWARE		
HD Backup	At Extra cost	Yes Software inc
Track Display	No	Yes
Fast Copy	No	Yes
COPIER HARDWARE		
Synchro Express	At extra cost	internal emulation
emulation	At extra cost	internal emulation
Blitz	At extra cost	internal emulation
Cyclone	At extra cost	internal emulation
Cyclone T2	At extra cost	internal emulation

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EXPANDING YOUR AMIGA

The basic Amiga A1200 is a very powerful machine but you can increase its capabilities still further with a range of low-cost add-ons. Here's a breakdown of some of the options available.

Sitting on your desk is possibly the most powerful low cost home computer ever to grace the shelves of your local computer shop. Your Amiga 1200 is capable of handling just about any computing task you care to throw at it. Whether your forte is word processing, music, CAD, DTP, video or you just enjoy tinkering with *DPaint*, you'll find the Amiga 1200 more than man enough for the job. Hiding beneath that beautifully crafted plastic casing is some of the most advanced hardware this side of a Sun MicroSystems Workstation (a very expensive piece of kit!)

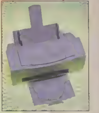
Backing up all this silicon wizardry are a whole host of add-ons that can extend the usefulness of your Amiga 1200 immeasurably. Some simply enhance the A1200's capabilities but others add whole new areas of use for you to explore. Over the next two pages you'll find a fairly detailed breakdown of the sort of kit available for your new computer. If you want to find out more about any of the types of product mentioned, don't forget to keep your eyes peeled for CU AMIGA every month!

MONITORS

Unless you've upgraded from an older model of Amiga, chances are that you'll be plugging your A1200 into a standard domestic television via the RF connecter on the back of your machine. Whilst your TV will be good enough for playing games, you may find it to be something of an eye-strainer if you intend to use your Amiga for other more serious applications. Even Wordworth 2, the word processor bundled with the A1200 is a bit of an eye-strainer when used on a television.

A much better bet is to treat yourself to a proper RGB monitor, a video display designed specifically for handling the video output from your Amiga. Not only will a monitor give you a much better picture quality, but it'll also save you the heartache of having to unplug your Amiga everytime someone in your household wants to watch Neighbours on the TV halfway through the second screen of *Alien Breed*. Which monitor you choose depends entirely upon how serious your computing needs really are. If you just want a bog standard RGB monitor for word processing, tinkering with *DPaint* and general use, then either Commodore's 1084S or Philips CM8833 will do nicely. These can be picked up for around £200.

At the opposite end of the scale is the multisync monitor, a type of monitor that can handle higher frequency signals than a standard RGB monitor. Once again, the picture quality is so much better but, best of all, you can take advantage of the DBL screen modes offered by the A1200 that give flicker free displays. Some of the best (and cheapest) multisyncs available are Commodore's own 1940 and 1942 monitors (£299 and £399 respectively).



PRINTERS

Possibly the most popular add on is the humble printer, a device that will allow you to transfer the text and graphics you see on your Amiga's screen permanently onto paper. Printers come in a number of different flavours: 9 and 24 pin dot matrix, inkjets and laser printers being the four most popular types. Possibly the most popular of these is the dot matrix, a type of printer that works by stamping a matrix of dots onto paper using a print head containing a vertical strip of fine wires (or 'pins' as they should be called). These pins strike an inked ribbon that lies between the print head and the paper, resulting in a fine pattern of dots that form the characters you see on the page.

Dot matrix printers come in two different flavours, 9 and 24 pin. The only difference between these two types of dot matrix are the number of pins in the print head. A 9 pin dot matrix has 9 pins and a 24 pin has... well, I'll leave you to work it out for yourself (grin). Dot matrix

Amiga external floppy drives are plentiful and reasonably cheap. Most suppliers stock a range of drives.

The 12 gauge lets you add extra memory via its single Simm slot. That means you'll be able to add up to 128 megs.

printers are so popular simply because they offer very high quality results at a very cheap price. An average 9 pin can be picked up for as little as £100 these days. The only disadvantage of the dot matrix is the amount of noise that they make because the pins literally strike the paper, they can be very noisy indeed.

If you need better quality printouts and the thought of a noisey dot matrix reduces you to a cold sweat, then you may want to consider an inkjet printer like the Canon BJ10sx (around £250). Inkjets work somewhat differently from a dot matrix printer: instead of striking the page using wire pins, an inkjet works by precisely spraying very minute droplets of ink onto the page through tiny nozzles in the print head. The great thing about inkjets is their print quality, often rivalling even the laser printer!

Finally, we have the laser printer, possibly the ultimate in home printer technology. Contrary to popular belief, lasers don't actually burn the text or graphics onto the page. Instead, they work by electrically charging the page which is then passed through a bath of charged particles of ink. Because only certain sections of the page are charged, the ink particles only stick to those areas of the page. Lasers are nowhere near as expensive as they used to be – a typically well-equipped laser such as the Ricoh LP1200 can be picked up for as little as £599. For desktop publishing work, a laser printer is the only choice.

DISK DRIVES

All Amigas come equipped with at least one floppy drive which is built into the machine, but you may want to purchase a second drive if you use programs that come on more than one disk. Adding a second drive to your machine will significantly enhance the AmigaDOS Shell too, allowing you to work with the Shell without having to reinsert the Workbench disk everytime you enter a new command. The Amiga supports a maximum of four external disk drives, one of which is already fitted to your Amiga, although it's unlikely you'll ever need to take advantage of this maximum number of drives.

Buying a second disk drive really comes down to a question of price. Most disk drives are pretty much the same and so its unlikely that you'll find one that offers anything that can't already be found in the large number of competitors. More recently however, a new breed of disk drive has raised its head – the high density drive. Whereas a standard Amiga drive can pack 880k of data onto a single disk, these new drives can pack double that amount onto a single disk. Special high density disks are required however, which can work out rather expensive. Even the drives themselves are not cheap: expect to pay around £120 for a high density drive as opposed to an average of around £55 for a standard Amiga drive.

HARD DISKS

The Amiga's disk drives are fast enough for most people's needs, but if you want the ultimate in storage devices, then you need a hard disk. These special storage devices can not only load programs and data around ten times faster than a disk drive but they can hold a lot more data too. Even a fairly basic hard drive can handle up to 40Mb and larger models are available up to 300Mb (that's the equivalent of over 340 disks!). Unlike a disk drive, however, hard disks use what are known as 'fixed disks'. That is, the magnetic disk that your data is stored on is sealed inside a metal case.

Adding a hard drive to your Amiga 1200 couldn't be easier thanks to the inclusion of an IDE hard disk interface which is built into all A1200s as standard. Because this interface is an integral part of the Amiga's innards, however, fitting a hard drive does require the Amiga to be opened up and so it should only be performed by a Commodore approved electrical engineer – if you attempt to fit the drive yourself, you could end up not only damaging your machine, but you'll also invalidate your warranty! Once fitted, however, a hard drive totally transforms an Amiga – programs load faster and you no longer have to worry about swapping disks!

Hard drives can be bought from – and indeed fitted by – a large number of shops and mail order companies. A basic 40Mb drive will set you back around £150 whereas a 200Mb drive will cost around £350.

RAM EXPANSIONS

If you've upgraded to an Amiga from the likes of the old 8-bit micros of old, 2Mb may seem like an awful lot of RAM. Sure, it's more than enough for most games, but even this colossal amount of RAM may not be enough if you use your Amiga seriously. Thankfully it is possible to increase the amount of memory inside your Amiga to a maximum of 10Mb using any one of a large number of RAM expansions now available for the A1200.

A1200 RAM expansions primarily come in two different flavours – PCMCIA expansions and trapdoor expansions. The PCMCIA expansion was the first type of expansion to be released for the A1200 due to the fact that they can also be used on Commodore's earlier Amiga model, the A600. PCMCIA cards come in two different sizes – 2Mb and 4Mb – and they connect to the machine via the PCMCIA slot on the left-hand side of your Amiga. PCMCIA expansions aren't really an ideal choice however, because the A1200 is a true 32 bit machine. PCMCIA expansions can slow the

A typical bare drive mechanism. Such devices are generic and will work on any machine providing you have the right interface.

machine down due to the fact that they use 16-bit RAM chips. Steer well clear!

A much better bet is the trapdoor expansion that – not surprisingly – connects to your Amiga via the trapdoor expansion slot in the underside of your machine. A great thing about these expansions is that they not only increase the amount of RAM inside your machine, but they also double the A1200's speed too! Some expansions also offer provision for a maths co-processor which is a special chip designed to handle mathematics in a fraction of the time that it takes your Amiga to wade through numbers. Unless you use your Amiga for ray tracing however, there's little point in buying a maths co-processor.

TECHNO SOUND
AMIGA STEREO
Sampling Cartridge

GENLOCKS

Possibly one of the most exciting areas of computing that you can get involved in is desktop video, an application in which the Amiga excells. If you've ever watched SeaQuest, The Chart Show or Babylon 5 then you would have already seen what the Amiga is capable of when connected up to the equipment in a television studio. One of the most important devices in the desktop videophile's armoury is the genlock, an inexpensive device that will allow you to mix the output from your Amiga with a 'live' video signal from a domestic video recorder or camcorder.

A genlock is a lot more than just a video mixer. By removing the background colour from the Amiga video image, the image can be overlayed on top of the live video signal. This can be used to great effect when adding titles to your home movies. Getting started in desktop video needn't be expensive either: the Lola Marketing (Tel 0858 880182) MiniGen genlock, for example can be picked up for as little as £50. Moving further up the scale, more powerful genlocks such as the MiniGen Pro, RocGen Plus and GVP G-Lock can be picked up from as little as £150. These more powerful genlocks allow you to fade between video signals using their integral controls.

SOUND SAMPLERS

If you're interested in the more musical side of the Amiga, then you've got to get your hands on a sound sampler. For the uninitiated, a sound sampler is a wondrous little device that can convert an audio signal from a CD player or Hi-fi into the digital information that your Amiga understands. Plug a microphone into the sound sampler and you can even 'sample' your own voice into your Amiga!

Once inside the Amiga, the sound samples can be played back by your Amiga's powerful sound chip. What's more, you can even manipulate the sound – it can be speeded up (therefore increasing its pitch), slowed down, sections can be cut out and pasted down and you can even apply all manner of special effects to the sample such as a phaser effect, echoes and so on. Sound samplers can be particularly useful however, when used in conjunction with a Sound Tracker program – a program written specifically for composing music using sound samples. If there's an instrument sound that you'd particularly like to use in your music, you can simply sample it into your Amiga and use it directly within your music!

Sound samplers are surprisingly cheap too. A fairly powerful sound sampler such as New Dimensions' (Tel 0291 690 933) brilliant TechnoSound Turbo II can be picked up for just £38 and a Sound Tracker program can be purchased from the Amiga Public Domain libraries for just £3! As you can see, getting started in Amiga music couldn't be cheaper!

VIDEO DIGITISERS

Finally, we have the video digitiser, a terribly useful gizmo that does the same job for video images as the sound sampler does for audio signals. With a video digitiser attached to the parallel port of your Amiga, you can grab pictures onto your Amiga screen direct from any device capable of producing a composite video signal – a domestic video recorder or camcorder, for example. If your artistic skills leave a lot to be desired, a video digitiser provides a perfect way of getting your hands on high quality artwork without having to draw it from scratch.

Video digitisers aren't expensive. Rombo's Vidi Amiga 12, for example, can grab full colour images with up to 262,000 colours for just £99. Vidi really does work best with a camcorder, but thanks to its built in RGB splitter, it can grab full colour images direct from videotape too.

If you're serious about video you need a decent quality genlock that won't degrade your picture. The Hamma 292 fits the bill and looks pretty sexy too!

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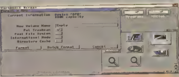


Workbench Screen

Current Information: Device 'DF0' 880K capacity

New Volume Name: Empty

Put Trashcan ☑

Fast File System ☐

International Mode ☐

Directory Cache ☐

Before you can use a new disk on your Amiga, it must first be formatted

AMIGA HELPLINE

If there's still an aspect of the Amiga that is giving you grief, then this selection of commonly asked question and answers may put you on the right track.

BATTERIES NOT INCLUDED

What should I do if my new Amiga fails to work when I first try to power it up?

It's an unavoidable fact of life that some Amigas that leave the factory will be dead on arrival. If the unthinkable does happen, check that you have set up your machine correctly. Have all the right leads been plugged into the right sockets? If in doubt, refer to our section on setting up your Amiga at the beginning of this supplement. Even if you're sure everything checks out okay, it's always worth double checking.

If you are still experiencing problems, check the power socket and fuse: you should have a 13 amp fuse in the plug which may be blown. If you are satisfied that you have everything correct and still there is no joy then get in touch with the shop where you purchased the machine and demand a replacement. On the whole Amigas are reliable but the [illegible] chance that you may have a dud

DEATH WARRANT

How important is it to post off my warranty? If I fail to do so and I experience problems later, would I still be covered?

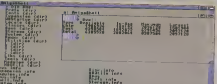
After checking that your new Amiga works it is vitally important that you locate the warranty – it's the big blue and white envelope marked IMPORTANT (subtle eh?). Fill it in and post it off immediately. If you don't do this, Commodore won't honour your warranty.

WARRANTY WORRIES

If my Amiga does go wrong, what sort of cover does the warranty provide?

The standard Commodore warranty lasts for one year from date of purchase and if your machine breaks down within this period then you are entitled to on-site maintenance. This means that an engineer from Wang or a local franchised dealer will come out to your house and sort out any problems with your machine on the spot. More complex problems may require the engineer to take the machine away although it should be returned to you within a couple of weeks. This may seem like an unbearable amount of time to have to wait, but there's no way around it I'm afraid.

You don't have to buy a monitor to view the output from your Amiga but you may find one a must if you use your Amiga for anything more than playing games.



```
AmigaShell
> Dir SYS:
  Prefs (dir)
  Fonts (dir)
  Expansion (dir)
  WBStartup (dir)
  Locale (dir)
  Classes (dir)
  Devs (dir)
  Storage (dir)
  System (dir)
  Rexxc (dir)
  Utilities (dir)
  L (dir)
  S (dir)
  T (dir)
  C (dir)
  Libs (dir)
  Tools (dir)
  Modules (dir)
  HDUtils (dir)
Devs.info                          Disk.info
Expansion.info                     HDUtils.info
Modules.info                       Opus
Opus.info                          Prefs.info
Shell.info                         Storage.info
System.info                        Test.object
Tools.info                         Utilities.info
WBStartup.info
```

```
AmigaShell
> Avail
Type   Available    In-Use   Maximum   Largest
Total    6305528   2002064   8307584   2097120
```

The AmigaDOS [illegible] provides a quick [illegible] method of pe fo[illegible] operations

SCREENING PROCESS

Do I have to buy a monitor to be able to use my new Amiga?

No. Your Amiga has a built in television modulator which allows you to plug it directly into your TV set. The more you use your computer however, the more you will start to realise that a monitor would be a wise addition to your set up. If you intend to use a word processor or graphics package then you will find a monitor an essential item as the low resolution nature of a television set can cause eye strain.

MOUSE MATTERS

What's a mouse controller and how do I use it?

The mouse is an essential part of your Amiga system. Basically it allows you to move an on screen mouse 'pointer' around the screen which you use to select pull down menu options and icons. For those of you who are not too familiar with a mouse, there are two main mouse operations that you need to be aware of. Click: Move the pointer over an icon on the screen and press the left mouse button once to select it. This is called 'clicking' or 'selecting' an icon. If all went well, the icon should be highlighted (its colours reversed). Double click: Using the same method as a 'click', press the left mouse button twice in quick succession. This will cause the operation associated with that icon to be performed. For example double clicking on a disk or drawer will display the contents of that disk or drawer. Selecting a menu option is slightly more complex. Hold down the right hand mouse button and the Workbench title bar should display the names of any available menus. To display the contents of a menu, keep holding down the right button and move the pointer over a menu heading and the menu associated with that heading will be 'pulled down' (hence the name pull down menus). Now just move the pointer down the list and release the right button when the option you want is highlighted. Simple eh?

MATTED MOUSE

Now that I've bought my new Amiga, I'd like to keep it in tip top condition. I've heard that the Amiga's mouse can become rather unreliable after a while and so is it worth buying a mouse mat?

Yes. A mouse mat is definitely worth purchasing as it provides a smooth, flat and clean surface which keeps the mouse free from dirt and fluff which can clog up the rollers inside. This is an inexpensive accessory which is worth its weight in gold – expect to pay no more than £10 for a quality mat.

FORMATTING DISKS

What is meant by the term formatting a disk? Why do I have to format a disk before it can be used? Finally, how do I format a disk?

You may well think that all 3 1/2 inch disks are the same no matter which type of machine you use them on, but this is only true from a very simplistic view point. In order for your Amiga to be able to use a new diskette, it has to be prepared so that all the tracks and sectors on the disk are in the format that the Amiga expects. This process is called 'formatting a diskette' and thankfully it's very easy to do from the Workbench.

To format a disk, load up Workbench and once it has loaded, remove the Workbench disk and insert the disk you wish to format. Although an icon for the disk will appear, it will not have previously been formatted unless you have bought a disk that already contains Amiga files. If the disk is labelled 'DF0 ???', then it has not been previously formatted. Select the disk's icon and then select the 'Format Disk...' option from the Workbench 'Icons' pull down menu. After a quick disk swap, your Amiga will then bring up the 'Format' requester which contains a whole host of options. For the meantime, however, ignore all the options and click on the 'Format' gadget. Be careful not to format your Workbench disk, however – if you do it will completely wipe all the data from the disk.

Once you've done this, the formatting procedure will now start – you should see a small graph that shows how much of the disk has still to be formatted. Once this bar has reached the end the disk will be formatted and ready for use.

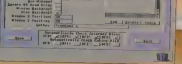
DISK DEFENCE

What can I do to protect my floppy and hard disks from being corrupted?

There are a few precautions that you can take to prevent the loss of valuable data from both floppy and hard drives. For starters, it's always a good idea to make backup copies of your most prized programs as soon as you can. Very few games will copy however, so you'll have to be particularly careful with these. Here are a few pointers to help you prolong the life of your disks however.

1 Avoid magnets at all costs. The magnetic field produced by a magnet can wipe all or part of your disk when the disk comes in close contact with a magnet, so keep magnets well away from your Amiga. Magnets can be found in many household items such as Hifi speakers and telephones and so you must bear this in mind when setting up your computer.

2 When writing on the disk label, don't put too much pressure on the disk. It is always best to use a felt tip pen or better still write the label before it



Workbench Screen

Check Crunched Files ✓ ☐ Ignore Capture
Match S-Sequence ✓ ☐ Use DBLib
Use Window? ☐
Ignore 00 Read Error ☐
Window Backdrop? ☐
Stay Resident? ✓
Window X Position: 20
Window Y Position: 20
Hotkey: lcommand v

Automatically Check Inserted Disks
DF0: ✓ DF1: ✓ DF2: ✓ DF3: ✓
Automatically Check Entire Disk
DF0 ☐ DF1: ☐ DF2 ☐ DF3: ☐

[illegible] will stop viruses from damaging your precious data

is stuck to the disk. If you press too hard, you could score the magnetic disk inside the casing.
3 Keep your disk in a clean environment. Cigarette smoke is very harmful to disks as it leaves a residue which can cause serious problems. Not only that, but smoking is jolly bad for you anyway, so your Amiga could even help you kick the habit!
4 Avoid liquids. Hot beverages have been the demise of many a disk and so you should try to keep them away from both your disks and your Amiga. Spilling coffee on a disk will damage the disk, but you could have a £300 scrap of metal and electronics if fluid enters your Amiga's casing!
5 Keep your disks at a moderate temperature as the heat and cold will not do them any good at all. All electronic equipment can be damaged by rapid changes in temperature, so try to keep your Amiga in a room that is constantly at a stable temperature.
6 Never open a disk, especially hard disks! We all like to know how things work, after all it's what makes mankind so inventive! However, opening a disk (especially a hard disk) will render it completely useless. If you want to know how your Amiga and peripherals like hard disks work, read CU AMIGA, we'll gladly tear hardware to pieces if it stops you from ruining your machine!

HALF SHELL HERO

I have heard the term 'Shell'. What is a shell and what does it do? In a nutshell (if you'll pardon the pun!), the shell is an alternative to the Workbench that allows you to enter commands via the keyboard just like computers of old. The Shell provides you with direct access to AmigaDOS and its many commands.

For example, if you wanted to display the contents of a disk from the Workbench, you would double click on the disk's icon and a window would appear containing the icons for the files and drawers on that disk. If you were to use Shell, however, you would simply type 'Dir' and the files would be displayed as a list within the Shell. Many techies believe that the Shell gives you far greater control over your Amiga's operations.

INFECTION DETECTION

What are viruses and how can I protect myself against them?

Viruses are programs written by computer vandals ('real morons') that are designed to duplicate themselves without the user's knowledge. They can spread from disk to disk, hide in RAM and will often corrupt or erase entire disks without mercy.

To protect yourself from viruses, try to keep all of your disks write protected at all times by opening the small notch on the bottom left hand corner of a disk. Better still, get your hands on a decent virus killer such as Richard Velthuis' excellent Virus Checker 6.34. Virus Killers are readily available from a number of Public Domain libraries for little more than the price of a disk.

GRAPHIC DEPICTION

What is a pixel and what does the term 'resolution' mean?

The best way to explain what a pixel is, is to imagine your screen as nothing more than an enormous sheet of graph paper that is built up of lots of little squares grouped together as a massive grid. Each individual square on the graph paper could be described as a pixel. Each pixel is capable of displaying a single colour and therefore when a whole series of pixels are coloured, a picture is formed.

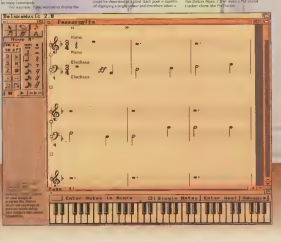
The term resolution refers to the number of squares or pixels on the screen along the vertical and horizontal axis. As a general rule, the more pixels, the higher the resolution and therefore the higher the definition of your graphic. The Amiga A1200's AGA chip set can display a maximum of 1,024 pixels across and 800 pixels high, although this will vary according to the selected screen mode; the standard Workbench display, for example, is only 640 pixels across and 256 pixels down. This is called Medium Resolution.

MUSICAL MISDEMEANOUR

I have been told that the Amiga is no good for musical purposes as it does not have a MIDI port. Is this true?

Absolutely not! There are many MIDI (Musical Instrument Digital Interface) adapters available for the Amiga and it is rapidly becoming widely used in a number of top studios. With a MIDI interface connected to your Amiga, you can use your machine to control whole banks of synthesisers using a variety of different software packages. One of the best packages for the Amiga is *Bars & Pipes Pro v2.0* which is what's known as a 'sequencer'. Also available for the Amiga are a massive range of patch editors and librarians.

You don't have to own MIDI equipment to create music on your Amiga, however. Thanks to the Amiga's powerful sound chip, you can create music using your Amiga's own 4 channel sound capabilities. All you need is a program like *Deluxe Music 2.0* or even a PD sound tracker clone like *ProTracker*.



[illegible] on your Amiga. A program like *Deluxe Music* will allow you to produce music using your Amiga's own sound capabilities.

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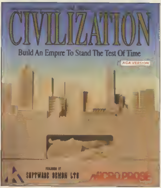
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